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Marine Recreational Fishery Statistics Survey, Atlantic and Gulf Coasts, 1986

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service, Washington, D.C.

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Woods Hole Oceanographic Institution

U.S. DEPARTMENT OF COMMERCE
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PREFACE

The National Marine Fisheries Service (NMFS) initiated a series of surveys in 1979 to obtain estimates of participation, catch, and effort by recreational fishermen in the marine waters of the United States. This effort implements the first priority of the NMFS Marine Recreational Fisheries Policy which was established in 1981, namely, the development on a regular and continuing basis of a comprehensive marine recreational fisheries data acquisition and analysis system. The Marine Recreational Fishery Statistics Surveys (MRFSS) have included the use of commercial contractors to perform data collection and processing tasks. This report covers the MRFSS activities on the Atlantic and Gulf coasts from January through December 1986. The results of the 1979-85 surveys were previously published in the Current Fisheries Statistics publications 8322 (Atlantic and Gulf Coasts, 1979 (revised) - 1980), 8324 (Atlantic and Gulf Coasts, 1981-1982), 8326 (Atlantic and Gulf Coast 1983-1984) 8327 and (Atlantic and Gulf Coasts, 1985).

This publication was prepared under the supervision of Mark C. Holliday. Past and present MRFSS personnel involved in the survey design, survey implementation, and analysis of data include David G. Deuel, Ronald J. Essig, Mark C. Holliday, W. Malon Scogin, and John F. Witzig.

The NMFS would appreciate comments on the information presented in this report, as well as suggestions for improvement or changes in the tabular presentation. Please address comments to: U.S. Department of Commerce, NMFS, National Fishery Statistics Program - F/RE1, Washington, D.C., 20235.

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INTRODUCTION

Data on commerical fisheries have long been collected by the National Marine Fisheries Service (NMFS) and it predecessor agencies. However, data on marine recreational fisheries have been collected on a systematic or continuing basis. The purpose of the Marine Recreational Fishery Statistics Survey (MRFSS) is to establish a reliable data base for estimating the impact of marine recreational fishing on marine resources. The information required for fishery management and development purposes includes size of catch by species, by subregion, by area, and by mode of fishing. For example, the MRFSS helps meet the goals of the Magnuson Fishery Conservation and Management Act of 1976 (MFCMA - Public Law 94-265). The MFCMA mandated a national program for management of fishery resources in the Exclusive Economic Zone (3-200 miles), and requires that the fishery management plans developed consider recreational as well as commercial fisheries and their harvests.

The survey described in this report reflects trip and catch data acquired during 1986. The first section of this report describes the survey methodology and estimation procedures. This is followed by a discussion of sampling variances and the precision of the estimates. The next section on results begins with several technical considerations in interpreting the data. A brief summary of the survey findings precedes the tabular results of the survey. Examples of length frequency histograms are presented for selected species. Tables after the results describe the classification of species groupings. Appended to the report are samples of the telephone and intercept survey instruments and a glossary.

The data presented in these tables are only a summary of those available from the MRFSS data base. Depending on sample size, catch estimates for individual species at the State, mode, area and wave levels may be available upon request. Estimates of number of trips and participants are also available at similar levels of detail. Other data available in a variety of formats include catch rates, lengths, weights and site descriptions. Inquiries for additional information should be directed to the address listed in the Preface.

SURVEY METHODOLOGY

The data collection methodology used for the survey consisted of two complementary surveys: a telephone survey of households, and an intercept survey of fishermen at fishing sites. Numerous methodological studies indicated that the survey should be structured around this data collection approach. 1/ These studies showed that a telephone survey could be used to collect reliable data on certain aspects of recreational fishing, such as number of trips made in the past 2 months, locations fished, and dates on which those trips were made. Data on fishing trips became less reliable beyond a 2-month period. Information on the actual catch such as species, number, and weight and length of fish caught could not be reliably collected by telephone. These data were obtained from fishermen by trained interviewers at fishing sites. Figure 1 shows the data collected by each method. Data from the two independent sources were combined to produce total effort, participation and catch estimates.

Using the complemented survey approach, marine recreational finfishing estimates were derived for six 2-month periods during 1986. Results from the 1979 and 1980 surveys indicated that less than 12 percent of the total recreational catch on the Atlantic and Gulf coasts was caught during January and February. However, costs to sample this period of time were very high on the Atlantic coast. Therefore, sampling effort during January and February of 1986 was limited to the Gulf coast States and the Atlantic coast of Florida and Georgia. The effort for 1986 involved more than 46,000 intercept interviews and over 74,000 telephone interviews on the Atlantic and Gulf coasts. The following sections briefly summarize the methods and procedures employed in the telephone survey, the intercept survey, and the data processing.

1/Brown, Gary L., A review of literature in selected areas relevant to the conduct of marine recreational fisheries surveys (McLean, Va.: HSR, August 1977); Brown, Gary L., Robert L. Hiett and Dhirendra N. Ghosh, Evaluation of the door-to-door personal interview method as a technique for collecting marine recreational fishing statistics (McLean, Va.: HSR, June 1977); Chandler, Kathryn A., A methodological study of on-site intercept surveys of marine recreational fishermen on the West coast (McLean, Va.: HSR, July 1977); Chandler, Kathryn A. and Gary L. Brown, A pretest of an approach to collection of marine recreational fishing data on the East and Gulf coasts (McLean, Va.: HSR, January 1978). Hiett, Robert L. and Dhirendra N. Ghosh, Recommended approach to the collection of marine recreational finfishing and shellfishing data on the Pacific coast (McLean, Va.: HSR, August 1977); Hiett, Robert L. and Jay W. Worrall, Marine recreational fishermen's ability to estimate catch and to recall catch and effort over time (McLean, Va.: HSR, July 1977); Metze, Brenda C., Evaluation of the telephone interview method as a technique for collecting marine recreational fishing data (McLean, Va.: HSR, July 1977).

Figure 1

DATA TYPE BY SURVEY METHOD

Categories of Data Collected in the Intercept Survey	Categories of Data Collected in the Household Telephone Survey
o Fishing mode	o Presence of marine recreational fishermen in the household
o Finfish catch, weight, and length by species	o Number of fishermen per household
o County/State of residence	o Number of finfishing trips in 2-month period
o Avidity level	o Location of each trip
o Area of fishing	o Location of household
	o Mode of each trip

TELEPHONE SURVEY METHODS

The telephone survey portion of the study was carried out in six 2-week periods of interviewing conducted near the end of each 2-month period of fishing activity. Each period of interviewing covered only fishing activity in the previous 2 months. The prescribed telephone interview quota for each wave varied with the amount of seasonal fishing activity expected. Telephone sampling effort was directed at households located in counties within 25 miles of the coast or major bays or estuaries. The sampling effort in the South Atlantic and Gulf of Mexico subregions was expanded during May through October to include households in counties within 50 miles of the coast. This decision was based on the expectation that most marine recreational fishermen live within these counties. Survey results from the on-site intercept survey confirmed this assumption as 73 percent of the intercepted fishermen lived within the telephone survey calling area.

To maintain the statistical properties of the expanded estimates, the telephone sampling effort was probabalistically allocated at the household level. Interview allocations for each county were based on the square root of the population within each county. 1/ The allocation of calls made in each telephone prefix was based on the frequency of households assigned that prefix. The appropriate number of sample points (household telephone numbers) was then randomly generated for each county for each wave without duplication.

Telephone interviews were conducted between 8:30 am and 9:00 pm local time. Up to three attempts were made to reach each household and up to six calls were made to households determined to contain marine fishermen to complete the questionnaire. Spanish-language interviews were conducted as required. Information on marine recreational fishing activity was solicited from each fishermen in the household or from a responsible adult when appropriate. A sample telephone questionnaire is included as Appendix A.

INTERCEPT SURVEY METHODS

The intercept portion of the survey consisted of on-site interviews which gathered catch and demographic data from marine recreational fishermen in three modes: party/charter boat, private/rental boat, and fishing from shore (e.g., man-made structures, beaches and banks). This differed from previous surveys when estimates for beach/bank fishing and fishing from man-made structures were made separately. However, raw intercept and telephone data files are maintained with the original mode of fishing variable intact. Sampling was conducted continuously in six 2-month sampling periods from January through December 1986, with the exception of the Atlantic coast north of Georgia, where January and February were not sampled.

The allocation of interviews by mode and wave was based on empirical data and informed estimates from the 1979-1985 surveys. The sample allocation among the various modes was modified as sampling results from 1986 became available. Complete coastwide site lists were created and sites were randomly selected to meet the mode allocations. Sampling was scheduled to include all weekdays, weekends and holidays.

Interviewers were assigned to randomly selected sites where fishermen were interviewed at the completion of their fishing trip. At heavy use sites, samples were taken of every n^{th} fisherman at the completion of the angler's trip. The interview consisted of an

1/ U.S. Department of Commerce, Selected housing characteristics by States and counties: 1980. Publication Number HC 80-51-1 (October 1981).

introduction to the survey and information on the Privacy Act of 1974, an oral interview concerning the fishing trip just completed (e.g., how long the person had fished, what gear was used), followed by an examination of the respondent's catch. Length and weight data for a sample of each species in the respondent's catch were collected (see Appendix B for survey instrument).

The interview procedures varied slightly by mode. When assigned to party/charter boats, the interviewer occasionally rode on the boat to conduct interviews and to examine the catch. Private/rental boat fishermen were interviewed at boat ramps and hoists while waiting to recover their boat or at dockside while cleaning the boat. Shore fishermen were widely distributed along beaches and banks with multiple access points. However, those fishing from man-made structures often had a single egress point where the fishermen could easily be intercepted by the sampler. Interview procedures were developed and implemented for each mode and unique set of conditions, including those where the catch was unavailable for identification, catches by more than one person, and multiple-day boat trips.

PROCEDURES FOR DEVELOPING EXPANDED ESTIMATES

The estimates derived from the telephone and intercept surveys fall into three categories: estimates of the number of trips taken, the number of finfish caught and/or landed (number and weight), and the number of participants in fishing activities.

Number of trips

The estimate of coastal county resident trips was derived from telephone survey and Bureau of the Census county population data. A proportion was derived of households with fishing activity in the previous 2 months to all households contacted in the sample. This factor was multiplied by census data on the number of permanent full-time households in each county to estimate total coastal fishing households in a State. The proportion of fishing trips by mode from the household sample was applied to the estimate of total fishing households to estimate coastal county resident trips by mode.

The telephone survey could not provide information on the number of trips taken by persons who resided in non-telephone households, or who lived beyond the 25 or 50-mile coastal zone from which the telephone numbers were drawn. Ratio estimators for calculating trip estimates covering both of these situations were derived from the intercept survey. For

example, assume the telephone survey estimated 10,000 private/rental boat trips were taken by coastal residents in a State. If non-coastal county residents constituted 10 percent of all intercepted fishermen in that State and mode, then the estimate of total trips was increased by 1,111 (i.e., 0.10 x 10,000 /0.9) to account for those trips taken by fishermen residing outside the telephone survey area. Similar procedures were used to estimate non-resident trips and to adjust for those fishermen residing in coastal counties who did not have telephones.

Number of fish caught

Estimates of total number of fish caught were calculated from the estimated total number of fishing trips by mode obtained from the telephone survey, and the average number of fish caught per trip obtained from the intercept survey. Figure 2 illustrates the manner in which data from the two surveys were combined to estimate number of fish caught. Multiplying the number of trips in a given State, mode, and area during a wave by the average catch of each species in the same State, mode, area, and wave resulted in an estimate of the total number caught of that species.

All fish that were caught by the intercepted fishermen were not available for the interviewer's inspection. The intercept interview, and the estimation procedures, distinguished between (1) those fish brought ashore in whole form which were available for identification, enumeration, and weighing and measuring by the interviewers (Type A catch), and (2) those not brought ashore in whole form. Those not brought ashore in whole form were separated into those those used as bait, filleted, or discarded dead (Type B1 catch) and those released alive (Type B2 catch). Expanded catch estimates were made for these three types of catch as shown in Figure 3. The purpose of estimating three catch types was to distinguish between those species identified and measured by trained interviewers, and those species reported to the interviewers by fishermen. Previously cited methodological studies indicated species were often misidentified by fishermen and their reported measurements subject to several types of bias.

The expanded estimate of total catch is the sum of Catch Type A, Catch Type B1, and Catch Type B2. The expanded estimate of the total catch which was "removed" is the sum of Catch Type A and Catch Type B1. The expanded estimate of catch not available for identification is the sum of Catch Type B1 and Catch Type B2.

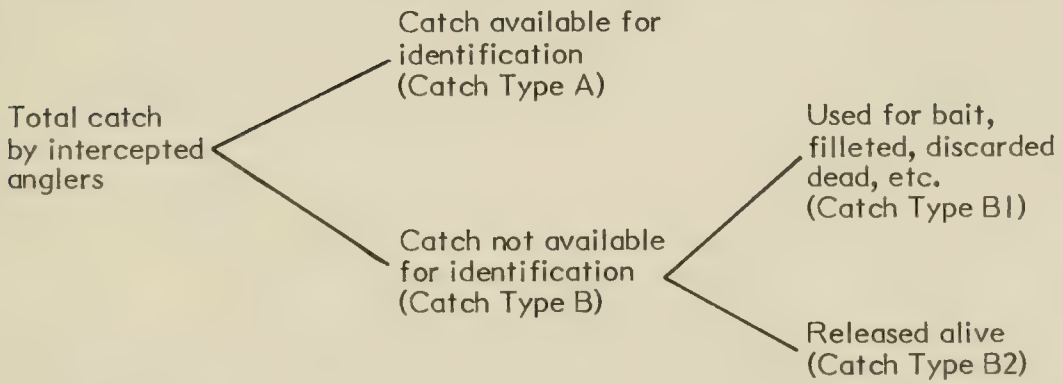
Figure 2

EXAMPLE OF FINFISHING CATCH ESTIMATE AS DERIVED FROM COMBINED TELEPHONE AND INTERCEPT DATA

Telephone Data		Intercept Data		Results
Number of fishing trips for each State by mode and area	X	Average catch per trip by species, mode and area	=	Number of each species caught by mode and area for each State

Figure 3

DIVISION OF CATCH FOR ESTIMATION PROCEDURES


Total catch by intercepted anglers
Catch available for identification (Catch Type A)
Catch not available for identification (Catch Type B)
Used for bait, filleted, discarded dead, etc. (Catch Type B1)
Released alive (Catch Type B2)

Weight of fish caught

Lengths and weights were obtained by sampling the fish caught and brought ashore in whole form by intercepted fishermen. Therefore, estimated weights were calculated only for catch Type A fish. Since the size composition of the remainder of the total catch (Catch Type B1 and Catch Type B2) is unknown and may differ from that of the fish represented in Catch Type A, estimates of the weight of the remainder of the catch were not calculated.

Incomplete trips

Most of the trips sampled in the intercept survey were completed trips. That is, the fisherman was interviewed only at the end of the fishing trip. When fishermen were interviewed as they left the fishing site, their probability of inclusion in the survey was not related to the length of their trip. A person who took a long trip and one who took a short trip had equal chances of being interviewed if the interviewer remained on-site all day.

If fishermen were interviewed while they were fishing, the probability of selection was related to the length of the fishing trip. This occurred only if interviewers arrived at a shore site at which there was very little fishing activity. They then interviewed those fishermen present and proceeded to another site to conduct interviews. When an incomplete trip was processed, it was converted into a simulated complete trip so that the probabilities of inclusion were equivalent for all types of trips, and the catch was related to the duration of the average trip.

Participation estimates

The estimate of the number of participants, derived from telephone and intercept data, was complicated by the fact that people exhibited varying levels of fishing avidity. Some fished very frequently and others very infrequently. The probability of selection in the intercept survey was higher for the person who fished frequently than for a person who seldom fished. In estimating the total number of distinct participants it was necessary to correct for these differences in probability of selection based on differing levels of avidity. Estimates were only made on a State basis. The participation estimates produced are not additive across States since an individual can fish in more than one State during the survey period.

Aggregation of estimates

The data for trips, catch, and participants were all calculated at the State, mode, area, and species level. Estimates were made on a wave-by-wave basis with all wave estimates calculated using the same formulas. The 1986 survey estimates were calculated by summing six waves of data from January-December for Georgia, the east coast of Florida and the Gulf coast States, and five waves of data from March-December for the Atlantic coast States north of Georgia. Elimination of sampling during January and February on the Atlantic coast results in an underestimate of less than 10 percent of the catch and number of trips for the calendar year. The data used to produce the tables in this publication are maintained in their unaggregated form in the MRFSS data base.

SAMPLING VARIANCES

A clustered sampling design was used throughout the telephone interview portion of the survey. However, the variance associated with the average number of fishing trips was calculated using a stratified simple random sample model for each stratum.

Estimation of the variances associated with the average catch and weight estimates obtained from the intercept survey was based on the assumptions that the primary sampling unit was the fishing trip of a single person and that there was no clustering effect due to grouping interviews at a site. These assumptions had been empirically verified in pilot surveys. Therefore, the variance was estimated using the standard variance equation for a stratified random sample: $\sigma^2_{\bar{x}_i} = E\left[\frac{s_i^2}{n_i}\right]$

where:

s_i^2 = estimated variance of stratum i,

and

n_i = number of interviews in stratum i.

Estimation of the variance of the combined estimates for the two surveys required special attention. The intercept survey provided estimates (x_i) for the average catch per trip for a mode within a State. The sampling variance $v(x_i)$ was estimated for the sample as described above. Let w_i be the estimate of the total number of trips from the telephone zone in the State for the corresponding mode (obtained from the telephone survey), and p_i be the proportion of trips from the telephone zone to the total trips intercepted. Then $y_i = w_i/p_i$ is the estimate for the total number of trips within a State for a mode. Since y is a ratio of two

independent random variables, then the sampling variance of y_i is estimated by the equation:

$$V(y_i) = V\left(\frac{w_i}{p_i}\right) = \frac{w_i^2}{p_i}\left[\frac{v(w_i)}{w_i^2} + \frac{v(p_i)}{p_i^2}\right]$$

The sampling variance of the estimated total catch (for individual species and for species groups) was calculated in terms of the expected values and sampling variance of x_i (average catch) and y_i (total number of trips) for each stratum. Total catch was not normally distributed and therefore direct examination of the precision of the estimates is difficult. However, simulation experiments indicated that a normal approximation was satisfactory for constructing 95 percent confidence intervals around the estimated total catch.

PRECISION OF THE ESTIMATES

Precision refers to the dispersion of the sample measurements used to calculate an estimate and the resultant variability in the estimate. The standard error of an estimate is the square root of the sampling variance of the estimate. Even though an unbiased estimate of the sampling variances can be developed from the sample, no unbiased estimate of the standard error can be calculated from the sample. Nevertheless, the square root of the estimate of sampling variance is a consistent estimate of the standard error of the estimate, and is almost universally used in sample surveys. The standard error is necessary for calculating confidence intervals around an estimate. The width of a confidence interval is a function of the probability level selected, and is determined from the normal distribution. The most commonly used confidence interval is given by: estimate $\pm$ 1.96 X (estimate of standard error).

Confidence intervals provide an indication of the precision of the estimated total catch. At the same confidence level a broad interval relative to the estimate indicates a less precise estimate than does a narrow interval. The 95 percent confidence interval indicates that we can be 95 percent certain that the actual total catch is between the upper and lower confidence limits.

The coefficient of variation (CV) expresses the standard error as a percentage of the estimate. It provides an alternative measure of precision and is useful in comparing the relative precision of two estimates. A small coefficient of variation indicates a more precise estimate than does a large coefficient.

RESULTS

TECHNICAL CONSIDERATIONS IN INTERPRETING DATA

Species groups

The number of observations for a species was an important consideration in determining the selection of species groups for the data tables. The catch of a single species is reported only if the number of observations exceeded a certain threshold. In some cases it was possible to combine several closely related species and report the catch for these species as a group. Species with fewer than the threshold number of observations which could not be combined with closely related species were put into the species group "Other Fish." Exceptions to these procedures were made in cases of economically important species such as striped bass. A list of species included in each species group is included after each year's data. Care should be exercised when comparing the tables with previous years as the species composition of some groups may have changed slightly. However, all species estimates are maintained individually in the MRFSS data base.

Cooperative data collection

In 1986 the basic MRFSS effort was enhanced through the cooperative participation of State and Federal agencies. The States of Florida, Georgia, Louisiana, New York, and Virginia either reimbursed NMFS for additional interviewing effort or used State personnel to collect an increased number of intercepts. These cooperative efforts provided the participants with needed data while taking advantage of the cost savings and methodology of a major survey. In addition, Texas Parks and Wildlife Department collected and provided data to NMFS in lieu of NMFS conducting the MRFSS in Texas. Interviews that would have been conducted by the MRFSS in Texas were reallocated to the remaining Gulf States.

Statistical considerations

The procedures used in the surveys to estimate the various parameters of interest (e.g., number of fish caught, number of participants) used ratio estimators. The reliability of ratio estimators is directly related to sample size; as sample size decreases, the amount of bias in the ratio estimate increases. No appreciable bias was apparent for any State in 1986.

The estimation procedure combined information from the telephone and intercept surveys. The completeness of the resulting data matrix was occassionally affected by the presence of "missing cells" in which no information was obtained. A cell is defined as State x mode x species x wave in the intercept survey, and State x mode x wave in the telephone survey. The presence of missing cells can result in an underestimate of the total number of fish, or an estimate of number of fish but no corresponding estimate of the weight of these fish. Missing weights were estimated by length-weight equations or using a protocol to input an average weight for the species from the closest adjacent cell, such as the adjacent mode in the same area and State.

Special care must be taken when comparing catch estimates for the 8 years (1979-86) of MRFSS data because of differences in sampling coverage. The 1981-84 sampling differs from 1979-80 in that the January - February waves in 1981-84 were not sampled on the Atlantic Coast north of Florida. The 1985-86 sampling differs from 1981-84 since the January - February wave of 1985-86 was sampled in Georgia. The 1981 sampling differs from all other years since the January - February wave of 1981 was not sampled in the Gulf and on the east coast of Florida. The 1982-84 sampling differs from 1979-81 and 1985 in that Texas boat mode data were not included in 1982-84. For 1986, party boats in the South Atlantic and Gulf subregions were not sampled by the MRFSS but were covered by a program conducted by the NMFS Beaufort Laboratory in North Carolina.1/ In addition, Texas was not sampled by the MRFSS in 1986 but was covered by the Texas Parks and Wildlife Department 2/.

Large increases or decreases of the estimated total catch of individual species groups are often due to the inclusion in the sample of unusually large catches of a species by one or a few fishermen. Calculation of an estimated catch for the species for an entire State then results in an artificially high estimate. Analysis of data and removal of outlines has minimized this occurrence. In addition, examination of the standard errors or coefficients of variation associated with the estimates will indicate if significant differences exist between the two estimates. Trends in the catch estimates from 1979 through 1986 should also be considered when examining the total catch estimates.

1/ For further information contact: NMFS Beaufort Laboratory, Pivers Island, P.O. Box 570, Beaufort, NC 28516.

2/ For further information contact: Texas Parks and Wildlife Department, Coastal Fisheries Branch, 4200 Smith School Rd., Austin, TX 78744.

DISCUSSION OF THE RESULTS

The total number of fish caught along the Atlantic and Gulf coasts was estimated at 411.2 million fish in 1986. This was slightly higher than the 1979-85 average catch of 387.5 million fish. Approximately 37 percent of the total catch was released alive in 1986. However, the percentage of live releases varied considerably among the subregions with 43 percent being released alive in the Gulf of Mexico subregion, 36 percent in the Mid-Atlantic, 35 percent in the South Atlantic, and 25 percent in the North Atlantic subregion. Overall, the total Atlantic and Gulf estimates are very consistant with previous survey years.

The 1986 catch did show some significant changes from 1979 to 1985 in the total number of fish caught in some important species groups. Black sea bass and scup catches in 1986 were more than double the 1979-85 average catches, while winter flounder catches in 1986 were less than half of the 1979-85 levels. Bluefish, spot, Atlantic croaker, summer flounder, winter flounder, spotted seatrout and black sea bass remained the most frequently caught species. Bluefish, which ranked either first or second in number caught in 1979-1985, was ranked third after black sea bass and Atlantic croaker in 1986.

Over 80 percent of the catch in number of fish was taken in inland waters (e.g., rivers, sounds, bays) or in the ocean within 3 miles of shore in 1986. Approximately 16 percent of the catch was taken in waters greater than 3 miles from shore. The remaining portion of the catch could not be identified by area. The proportion of the 1986 catch in number taken in waters greater than 3 miles from shore varied from 7 percent in the South Atlantic to 21 percent in the North Atlantic.

The private/rental boat mode accounted for the highest percentage of the catch in number for all subregions combined in 1986 with 62 percent. All subregions except for the South Atlantic (31 percent) had private/rental boat catches representing over 60 percent of the total catch.

The average weight of a fish, estimated from the Type A catch for all subregions combined, was 0.67 kg (1.48 lbs) in 1986. The average weight of fish sampled ranged from 0.57 kg in the Mid-Atlantic subregion to 0.96 kg in the North Atlantic subregion.

Thirty-six percent of the 1986 catch by weight, estimated from the Type A catch, for all subregions combined was from the EEZ. The percentage catch by weight in the EEZ was highest in the South Atlantic (45 percent), followed by the Mid-Atlantic (41 percent), the North Atlantic (31 percent) and the Gulf (26 percent).

Approximately 7.7 million anglers made 45.9 million fishing trips within their home State during 1986. Out-of-State anglers contributed an additional 15.7 million trips. The majority of all fishing trips within a State were made by coastal county residents of the same State. However, out-of-State anglers made more fishing trips than resident fishermen in Delaware. Residents of all 50 states were intercepted on either the Atlantic or Gulf coast in 1986.

The Mid-Atlantic subregion accounted for the greatest number of fishing trips and participation by residents in 1986 with one-third of the Atlantic and Gulf coast total. This differs from 1985 when the Gulf subregion had the highest average number of trips and participants. However, the exclusion of Texas and South Atlantic and Gulf party boat trips in 1986 may account for the differences between 1986 and previous years. The North Atlantic subregion had the fewest trips and participants for all 8 years of the survey. The private/rental boat mode accounted for the highest percentage of the fishing effort in 1986 in the North Atlantic and Mid-Atlantic subregions. Most of the 1986 fishing effort in the South Atlantic and Gulf was in the shore mode.

Angler success, as measured by the average number of fish caught, was highest for the private/rental boat mode in the North Atlantic and Gulf subregions in 1986. Catch per trip was highest from the party/charter boat mode in the Mid-Atlantic and from the shore mode in the South Atlantic. Overall, more than 70 percent of the anglers fishing in party/charter and private/rental boat modes were successful in catching one or more fish; approximately 50 percent of those fishing the shore mode were successful in catching fish. The success rates for the private/rental boat mode in the Gulf subregion was the highest of all reported in 1986.

The coefficient of variation for the total number of fish caught in 1986 was 3 percent. At the 95 percent confidence level the actual total catch was between 389.9 and 432.6 million fish. Ninety percent of the species groups had coefficients of variation less than 30 percent. The lowest species group coefficients of variation were 7 percent for bluefish and spotted seatrout, and 8 percent for spot, red drum and summer flounder.

Length frequency histograms for selected species in 1986 (Figure 4) were similar to 1983-85. A bimodal distribution was observed for bluefish, with a major peak at 450 mm and a secondary peak at 750 mm. This bimodal distribution is most likely the result of differences in

the size of fish caught among fishing modes and areas. The length frequency data for each species are highly aggregated in these plots so differences among subregions, modes, areas and waves are masked.

The regional nature of the recreational fishery is characterized by the varying composition of the catches. Therefore, the following discussion will focus on the significant changes in the catches of specific groups in the individual subregions.

NORTH ATLANTIC. Scup and bluefish dominated the marine recreational fishery in the North Atlantic during 1986, as they did in 1979-85. These two species accounted for over 57 percent of the total catch in numbers in the subregion. Other frequently caught species in 1986 were summer flounder, tautog, Atlantic cod, cunner and Atlantic mackerel. Catches of winter flounder, the top-ranked species in 1979-82 and 1985, were the lowest in the eight years of the survey.

The private/rental boat catch from inland waters accounted for the largest proportion of the total number of fish caught in 1986 (36 percent). The private/rental boat mode alone accounted for 73 percent of the total number of fish caught. This was higher than the 1979-85 average private/rental boat mode contribution of 61 percent. In 1986 the inland area accounted for the greatest proportion of the catch in number with 44 percent. This was similar to 1979-82 and 1985, when the inland area accounted for the greatest proportion of the catch.

Approximately 1.3 million New England residents participated in marine recreational fishing in the North Atlantic and made an estimated 5.8 million fishing trips in 1986. These effort statistics were similar to the 1979-85 means of 1.3 million participants and 5.7 million trips. Fishing activity was greatest during the July/August wave in 1986; approximately 8 percent of the coastal county residents of the North Atlantic States participated in marine recreational fishing during these months. Out-of-State residents made an additional 2.5 million fishing trips in this subregion.

Average catch rates for the boat fishing modes in 1986 were higher than 1979-85 mean values, while the shore mode in 1986 was lower than 1979-85 mean values for the combined man-made and beach/bank modes. The private/rental boat mode had the highest average catch rate with 8.1 fish/trip and the shore mode had the lowest catch rate with 2.3 fish/trip.

As in all previous survey years except 1980, bluefish was the most sought after species in 1986. In 1986, winter flounder was ranked second and Atlantic cod was ranked third. Since intercept interviews are conducted at the completion of a fishing trip there may be some response bias introduced that correlates the species sought with what was actually caught.

The coefficient of variation for the total catch in number of fish was 7 percent in 1986. Based on the standard error of the estimate, the actual total catch in number of fish was between 49.0 and 64.3 million fish in 1986 at the 95 percent confidence level. Although the precision of the catch estimates for individual species groups varied greatly, 65 percent of the species groups had coefficients of variation less than 30 percent. The lowest coefficients of variation were 13 percent for scup and 16 percent for bluefish.

MID-ATLANTIC. Black sea bass, summer flounder, bluefish and spot comprised 50 percent of the total catch in number in the Mid-Atlantic in 1986. These same species were major components of the 1979-85 catches. The catch of black sea bass was considerably higher in 1986 than in 1979-85, while the estimated catch of winter flounder was significantly lower in 1986.

The private/rental boat catch from inland waters accounted for the greatest percentage of the total number of fish caught in the subregion in 1986 with 38 percent. The private/rental boat mode alone accounted for approximately 63 percent of the total number of fish caught. The 1979-85 average percentage of catch from the private/rental boat mode was 57 percent. Seventy-four percent of the marine recreational catch in number in 1986 was from inland waters or within 3 miles of shore.

Aproximately 2.5 million residents of the Mid-Atlantic States participated in marine recreational fishing during 1986. Coastal residents made approximately 72 percent of the marine fishing trips. Residents of the subregion made an estimated 15.3 million marine fishing trips in 1986; an additional 5.2 million trips were made by out-of-State residents. Fishing activity was greatest in the July/August wave with approximately 8 percent of the sampled residents of the coastal counties participating in the fishery.

Catch rates in all fishing modes in 1986 were higher than the 1979-85 average catch rates. The average catch rate was highest for party/charter boat mode with 13.6 fish/trip.

As in previous years summer flounder and bluefish were the most sought after individual species in 1986 with approximately 31 percent of the respondents indicating a preference for one of the species. No other species accounted for more than 10 percent of the responses during 1986.

The coefficient of variation for total number of fish caught in 1986 was 5 percent. At the 95 percent confidence level the actual total catch was between 147.0 and 180.4 million fish. Species groups with coefficients of variation less that 10 percent were bluefish (7 percent), summer flounder (8 percent), and spot (9 percent).

SOUTH ATLANTIC. No species group clearly dominated the recreational fishery in the South Atlantic during 1986. Atlantic croaker, spot and herrings were the most abundant species caught in 1986 and accounted for approximately 29 percent of the total catch.

Anglers fishing in the shore mode took approximately 67 percent of the recreational catch in 1986. Seven percent of the total number of fish was taken in the ocean greater than 3 miles from shore area. Part of the percent change in catches among the modes is attributable to the exclusion of the party boat catch from the 1986 survey.

Average catch rates in 1986 were similar to those in 1979-85. Catch rates were highest in the shore mode with an average of 4.3 fish/trip and lowest in the charter boat mode with an average of 3.2 fish/trip.

An estimated 1.7 million residents of the South Atlantic States participated in the marine recreational fishery in 1986. The estimated participation was lower than the 1979-85 average of 2.1 million South Atlantic resident fishermen and may be attributed to exclusion of party boats from the sample frame. Coastal residents made approximately 77 percent of the estimated 14.8 million trips in 1986. Fishing activity was greatest in the September/October wave with approximately 11 percent of the coastal population of the subregion participating in the fishery. Over 7 percent of all households surveyed reported marine recreational fishing activity during each wave.

As in 1983-85, four of the five most highly sought species were spotted seatrout, bluefish, red drum and king mackerel. Dolphins were added to the list of most sought after species in 1986.

The coefficient of variation for the total number of fish caught during 1986 was 5 percent. The actual total catch was 53.0 to 65.1 million fish at the 95 percent confidence level.

GULF OF MEXICO. Forty-one percent of the total marine recreational catch in the Gulf of Mexico in 1986 consisted of various members of the Sciaenid family (i.e., drums, seatrouts, croakers) an increase from 34 percent of the total catch in 1985. Spotted seatrout was the most commonly caught species with 16 percent of the total catch. Other commonly caught species groups were saltwater catfishes, Atlantic croaker, Spanish mackerel, sand seatrout and pinfish. The exclusion of Texas and party boat sampling in the Gulf subregion in 1986 may account for several apparent changes in Gulf of Mexico results. In the 1985 MRFSS, Texas accounted for 24.8 million fish caught on 7.3 million trips by 1.8 million participants. The exclusion of party boats, many of which target reef fish, may contribute to the changes in species sought for the subregion.

The private/rental boat - ocean 3 mile or less mode-area combination accounted for the largest proportion (40 percent) of the catch in 1986. Approximately 71 percent of the total number of fish was taken by anglers in the private/rental boat mode. Fourteen percent of the total number of fish was taken in the ocean greater than 3 miles from shore.

Average catch rates increased in 1986 from the 1985 rates for all modes. The private/rental boat mode had the highest catch rate (14.5 fish/trip). The shore mode had the lowest catch rate (4.0 fish/trip).

An estimated 2.2 million residents of the Gulf coast States participated in marine recreational fishing during 1986. Over 8 percent of the households contacted in the telephone survey reported marine fishing activity in all waves of 1986.

Spotted seatrout and red drum were the most highly sought species in 1986 as in 1983-1985. These two species represented 34 percent of the responses to species sought. As in the South Atlantic, the diversity of species sought was much higher than the North Atlantic and Mid-Atlantic subregions.

The coefficient of variation for the total number of fish caught was 3 percent in 1986. The actual total catch in number of fish was between 122.8 and 140.9 million fish at 95 percent confidence level.

ATLANTIC AND GULF

1986 TABLE FINDING GUIDE

(Subjects by Table Numbers)

Catch Type A: Catch available for identification.

Catch Type B: Catch not available for identification.

Catch Type B1: Used for bait, filleted, discarded dead, etc.

Catch Type B2: Released alive.

	A+B	A	B1	B2
Numbers Caught				
Species	1,6-9,16-25, 41,42*	2,43	3,44	4,45
Subregion	1,5,6-12,17-20, 22-25,41,42*	2,5,13-15, 43	3,5,44	4,5,45
State	6-9			
Area	10,12,16-20	13,15		
Mode	11,12,21-25	14,15		
Wave	5	5	5	5
Standard Errors	41,42*	43	44	45
Weight of Catch				
Species		26		
Subregion		26-30		
Area		27,29		
Mode		28,29		
Wave		30		

* Catch type A + B1.

(Continued)

ATLANTIC AND GULF

1986 TABLE FINDING GUIDE
(continued)

(Subjects by Table Numbers)

	Number of Participants	Residence of Participants	Species Sought	Number of Trips	Catch Per Trip (Frequency)	Catch Per Trip (Mean)	Number of Intercept Interviews	Number of House-holds Interviewed By Telephone
Subregion	31		34	32,33	35	36	37	40
State	31	38,39		32			38,39	40
Coastal, Non-coastal and Out-of-state Residents	31	38		32,33			38	
Mode				33	35	36	37	
Area							37	
Fishing and Non-fishing Households								40
Wave								40
Standard Errors	31			32,33				

TABLE 1. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			THOUSANDS		
01. SHARKS	33	1,141	452	695	2,322
02. SHARKS, DOGFISH	410	1,563	179	-	2,172
03. SKATES/RAYS	521	409	306	404	1,639
04. EELS	42	285	-	54	410
05. HERRINGS	701	1,085	5,068	4,148	11,002
06. FRESHWATER CATFISHES	*	695	94	938	1,727
07. SALTWATER CATFISHES	*	-	3,033	15,331	18,368
08. TOADFISHES	-	2,705	559	200	3,464
09. ATLANTIC COD	1,493	56	*	*	1,549
10. ATLANTIC TOMCOD	349	-	*	*	355
11. POLLOCK	436	-	*	*	446
12. SILVER HAKE	-	160	*	*	168
13. SEAROBINS	834	10,908	75	41	11,858
14. SCULPINS	318	-	*	*	323
15. WHITE PERCH	-	3,978	144	*	4,125
16. STRIPED BASS	683	706	-	-	1,429
17. BLACK SEA BASS	981	30,257	1,677	1,824	34,739
18. GROUPERS	*	*	156	2,227	2,383
19. SEA BASSES	*	-	138	1,152	1,300
20. BLUEFISH	10,646	18,379	3,101	541	32,667
21. JACK CREVALLE	*	*	2,566	761	3,328
22. BLUE RUNNER	*	*	2,671	687	3,358
23. GREATER AMBERJACK	*	37	123	282	442
24. FLORIDA POMPANO	*	-	1,830	253	2,090
25. JACKS	*	148	747	1,815	2,710
26. DOLPHINS	*	37	603	614	1,254
27. GRAY SNAPPER	*	*	529	1,561	2,090
28. RED SNAPPER	*	*	210	645	855
29. LANE SNAPPER	*	*	45	174	218
30. VERMILION SNAPPER	*	*	56	303	359
31. YELLOWTAIL SNAPPER	*	*	278	302	580
32. SNAPPERS	*	*	134	199	334
33. PIGFISH	*	104	338	1,011	1,453
34. WHITE GRUNT	*	*	698	992	1,690
35. GRUNTS	*	-	1,036	2,279	3,320
36. SCUP	21,567	10,794	*	*	32,361
37. PINFISH	*	-	2,547	7,325	9,882
38. SHEEPSHEAD	*	31	839	1,852	2,722
39. RED PORGY	*	*	-	255	269
40. PORGIES	*	-	134	88	225

TABLE 1. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			--THOUSANDS--		
41. SPOTTED SEATROUT	*	179	1,958	21,455	23,592
42. WEAKFISH	_	11,106	1,204	*	12,322
43. SAND SEATROUT	*	*	*	6,404	6,404
44. SILVER PERCH	*	_	154	298	465
45. SPOT	*	15,738	5,761	142	21,640
46. KINGFISHES	*	656	3,271	4,102	8,029
47. ATLANTIC CROAKER	*	12,988	6,088	14,912	33,989
48. BLACK DRUM	*	34	403	1,430	1,867
49. RED DRUM	*	57	553	3,513	4,123
50. DRUMS	*	36	237	1,281	1,554
51. MULLETS	*	46	1,713	4,582	6,341
52. BARRACUDAS	*	_	253	221	477
53. TAUTOG	4,179	4,996	_	*	9,186
54. CUNNER	1,321	1,383	*	*	2,703
55. LITTLE TUNNY/ATL.BONITO	563	54	655	523	1,795
56. ATLANTIC MACKEREL	1,238	4,642	*	*	5,879
57. KING MACKEREL	*	_	592	147	753
58. SPANISH MACKEREL	*	534	1,066	7,914	8,987
59. TUNAS/MACKERELS	33	18,394	150	209	927
60. SUMMER FLOUNDER	4,305		1,484	*	24,183
61. GULF FLOUNDER	*	*	*	502	502
62. SOUTHERN FLOUNDER	*	_	441	2,568	3,021
63. WINTER FLOUNDER	5,411	5,016	*	*	10,428
64. FLOUNDERS	55	828	*	1,539	2,422
65. TRIGGERFISHES/FILEFISHES	_	60	158	231	452
66. PUFFERS	_	391	378	227	1,000
67. OTHER FISHES	505	2,930	2,100	10,663	16,199
TOTALS	56,654	163,670	59,047	131,865	411,235

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: SEE TABLES 46 THROUGH 50 FOR STANDARD ERRORS OF THE ESTIMATED NUMBER OF FISH CAUGHT.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

END OF TABLE.

TABLE 2. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			-----THOUSANDS-----		
01. SHARKS	*	94	57	47	198
02. SHARKS, DOGFISH	-	110	-	*	114
03. SKATES/RAYS	-	-	-	-	-
04. EELS	-	133	-	-	142
05. HERRINGS	528	755	329		1,612
06. FRESHWATER CATFISHES	*	261	33	215	509
07. SALTWATER CATFISHES	*	-	394	302	701
08. TOADFISHES	*	-	-	-	33
09. ATLANTIC COD	163	47	*	*	209
10. ATLANTIC TOMCOD		-	*	*	
11. POLLOCK	92	-	*	*	94
12. SILVER HAKE	*	158	*	*	158
13. SEAROBINS		103			125
14. SCULPINS	*	*	-	*	
15. WHITE PERCH	*	1,636	120	*	1,756
16. STRIPED BASS	-	95	-	-	138
17. BLACK SEA BASS	535	15,800	736	461	17,532
18. GROUPERS	*	*	50	511	561
19. SEA BASSES	*		36	121	160
20. BLUEFISH	4,610	9,936	1,500	126	16,172
21. JACK CREVALLE	*	*	148	67	215
22. BLUE RUNNER	*	*	520		547
23. GREATER AMBERJACK	*		64	82	166
24. FLORIDA POMPANO	*	-	1,428	40	1,484
25. JACKS	*	83	50	35	168
26. DOLPHINS	*	31	500	173	704
27. GRAY SNAPPER	*	*	153	493	646
28. RED SNAPPER	*	*	185	443	628
29. LANE SNAPPER	*	*		73	75
30. VERMILION SNAPPER	*	*	32	95	127
31. YELLOWTAIL SNAPPER	*	*	42	100	142
32. SNAPPERS	*	*	37	-	67
33. PIGFISH	*	61	94	106	261
34. WHITE GRUNT	*	*	116	314	431
35. GRUNTS	*		93	337	431
36. SCUP	13,760	8,173	*	*	21,933
37. PINFISH	*	*	769	849	1,618
38. SHEEPSHEAD	*		765	535	1,302
39. RED PORGY	*	*		51	62
40. PORGIES	*	-	104	-	121

TABLE 2. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			THOUSANDS		
41. SPOTTED SEATROUT	*	122	1,362	11,487	12,970
42. WEAKFISH	_	6,897	521	*	7,429
43. SAND SEATROUT	*	*	*	2,148	2,148
44. SILVER PERCH	*	_	_	96	125
45. SPOT	*	8,703	2,671	136	11,509
46. KINGFISHES	*	545	1,382	1,876	3,804
47. ATLANTIC CROAKER	*	9,510	5,124	1,248	15,883
48. BLACK DRUM	*	_	219	718	966
49. RED DRUM	*	47	296	1,954	2,297
50. DRUMS	*	_	235	468	717
51. MULLETS	*	_	344	1,428	1,778
52. BARRACUDAS	*	_	54	32	88
53. TAUTOG	2,441	1,886	_	*	4,330
54. CUNNER	_	96	*	*	107
55. LITTLE TUNNY/ATL.BONITO	37	37	156	80	310
56. ATLANTIC MACKEREL	228	3,456	*	*	3,684
57. KING MACKEREL	*	_	502	50	563
58. SPANISH MACKEREL	*	_	581	2,301	2,886
59. TUNAS/MACKERELS	_	209	100	100	428
60. SUMMER FLOUNDER	1,290	5,106	1,077	*	8,173
61. GULF FLOUNDER	*	*	*	150	150
62. SOUTHERN FLOUNDER	*	_	335	471	807
63. WINTER FLOUNDER	2,185	2,585	*	*	4,770
64. FLOUNDERS	_	128	*	_	162
65. TRIGGERFISHES/FILEFISHES	_	37	45	45	130
66. PUFFERS	_	157	54	*	212
67. OTHER FISHES	_	967	1,294	526	2,800
TOTALS	26,001	79,104	24,762	31,034	160,901

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: SEE TABLES 46 THROUGH 50 FOR STANDARD ERRORS OF THE ESTIMATED NUMBER OF FISH CAUGHT.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

TABLE 3. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE B1) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			THOUSANDS		
01. SHARKS		67	44	275	391
02. SHARKS, DOGFISH	127	61	–		217
03. SKATES/RAYS	54	–	–	77	169
04. EELS	–	–	–	–	57
05. HERRINGS	162	280	3,004	3,469	6,914
06. FRESHWATER CATFISHES	*			33	56
07. SALTWATER CATFISHES	*	*	469	3,076	3,546
08. TOADFISHES	*	246	64	–	311
09. ATLANTIC COD	1,165	–	*	*	1,173
10. ATLANTIC TOMCOD		–	*	*	
11. POLLOCK	256	–	*	*	265
12. SILVER HAKE	–	–	*	*	–
13. SEAROBINS	123	380			506
14. SCULPINS	142	*	*	*	142
15. WHITE PERCH	*	78	–	*	92
16. STRIPED BASS	–	*	–	–	–
17. BLACK SEA BASS	–	7,346	241	518	8,133
18. GROUPERS	*	*	–	825	843
19. SEA BASSES	*			214	222
20. BLUEFISH	4,170	5,047	933	267	10,417
21. JACK CREVALLE	*	*	943		965
22. BLUE RUNNER	*	*	620	154	774
23. GREATER AMBERJACK	*			127	144
24. FLORIDA POMPANO	*	*	81	176	257
25. JACKS	*		173	1,120	1,304
26. DOLPHINS	*	–	81	396	481
27. GRAY SNAPPER	*	*	86	568	654
28. RED SNAPPER	*	*	–	178	203
29. LANE SNAPPER	*	*		35	41
30. VERMILION SNAPPER	*	*	–	159	174
31. YELLOWTAIL SNAPPER	*	*	77	101	178
32. SNAPPERS	*	*	–	39	58
33. PIGFISH	*		38	113	151
34. WHITE GRUNT	*	*	136	128	263
35. GRUNTS	*	*	115	456	571
36. SCUP	2,534	1,490	*	*	4,025
37. PINFISH	*	–	648	2,815	3,468
38. SHEEPSHEAD	*		31	600	632
39. RED PORGY	*	*	–	183	185
40. PORGIES	*	*	–	–	40

TABLE 3. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE B1) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			THOUSANDS		
41. SPOTTED SEATROUT	*		255	3,562	3,818
42. WEAKFISH	*	2,225	273	*	2,498
43. SAND SEATROUT	*	*	*	2,240	2,240
44. SILVER PERCH	*	*	_	_	33
45. SPOT	*	1,270	1,910		3,185
46. KINGFISHES	*	48	1,088	1,686	2,823
47. ATLANTIC CROAKER	*	213	393	6,536	7,143
48. BLACK DRUM	*	_	128	264	397
49. RED DRUM	*	_	85	558	644
50. DRUMS	*	_	*	318	329
51. MULLETS	*	_	619	2,872	3,495
52. BARRACUDAS	*	*	_	_	_
53. TAUTOG	1,222	2,451		*	3,681
54. CUNNER	766	92	*	*	858
55. LITTLE TUNNY/ATL.BONITO	526		148	262	945
56. ATLANTIC MACKEREL	938	1,158	*	*	2,096
57. KING MACKEREL	*	_	73	83	157
58. SPANISH MACKEREL	*		165	2,622	2,790
59. TUNAS/MACKERELS		181	45	93	327
60. SUMMER FLOUNDER	1,629	1,754	134	*	3,517
61. GULF FLOUNDER	*	*	*	181	181
62. SOUTHERN FLOUNDER	*	*	42	1,640	1,682
63. WINTER FLOUNDER	1,980	1,136	*	*	3,116
64. FLOUNDERS	_	66	*	1,202	1,275
65. TRIGGERFISHES/FILEFISHES	*	_	_	128	153
66. PUFFERS	*				44
67. OTHER FISHES	324	522	62	3,567	4,475
TOTALS	16,224	26,284	13,472	44,014	99,993

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: SEE TABLES 46 THROUGH 50 FOR STANDARD ERRORS OF THE ESTIMATED NUMBER OF FISH CAUGHT.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

CATCH TYPE B1: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH NOT AVAILABLE IN WHOLE FORM FOR INTERVIEWER'S IDENTIFICATION, AS REPORTED BY FISHERMEN. INCLUDED ARE THOSE FISH USED AS BAIT, FILLETED, GIVEN AWAY, DISCARDED DEAD, ETC., EXCLUDING FISH RELEASED ALIVE.

TABLE 4. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE B2) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			THOUSANDS		
01. SHARKS	_	981	352	373	1,733
02. SHARKS, DOGFISH	280	1,393	154	_	1,841
03. SKATES/RAYS	463	376	286	319	1,444
04. EELS	_	134	_	43	211
05. HERRINGS	_	50	1,735	679	2,476
06. FRESHWATER CATFISHES	*	428	43	691	1,162
07. SALTWATER CATFISHES	*	*	2,169	11,953	14,121
08. TOADFISHES	_	2,448	486	185	3,119
09. ATLANTIC COD	166	_	*	*	166
10. ATLANTIC TOMCOD	328	_	*	*	332
11. POLLOCK	88	*	*	*	88
12. SILVER HAKE	_	*	*	*	--
13. SEAROBINS	691	10,425	74	38	11,227
14. SCULPINS	176	_	*	*	178
15. WHITE PERCH	_	2,264	_	*	2,276
16. STRIPED BASS	639	612	_	_	1,267
17. BLACK SEA BASS	417	7,112	700	845	9,073
18. GROUPERS	*	*	87	892	979
19. SEA BASSES	*	_	98	817	918
20. BLUEFISH	1,866	3,396	668	148	6,078
21. JACK CREVALLE	*	*	1,476	672	2,148
22. BLUE RUNNER	*	*	1,531	506	2,037
23. GREATER AMBERJACK	*	_	48	74	133
24. FLORIDA POMPANO	*	*	321	37	359
25. JACKS	*	53	523	661	1,237
26. DOLPHINS	*	_	_	45	70
27. GRAY SNAPPER	*	*	290	500	790
28. RED SNAPPER	*	*	*	_	_
29. LANE SNAPPER	*	*	37	66	103
30. VERMILION SNAPPER	*	*	_	50	59
31. YELLOWTAIL SNAPPER	*	*	159	101	260
32. SNAPPERS	*	*	78	131	208
33. PIGFISH	*	42	206	793	1,041
34. WHITE GRUNT	*	*	446	550	996
35. GRUNTS	*	_	828	1,485	2,319
36. SCUP	5,272	1,131	*	*	6,403
37. PINFISH	*	_	1,130	3,661	4,796
38. SHEEPSHEAD	*	_	43	717	787
39. RED PORGY	*	*	_	_	_
40. PORGIES	*	_	*	62	64

TABLE 4. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE B2) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			THOUSANDS		
41. SPOTTED SEATROUT	*	56	342	6,406	6,804
42. WEAKFISH	*	1,984	410	*	2,394
43. SAND SEATROUT	*	*	*	2,016	2,016
44. SILVER PERCH	*	_	113	183	308
45. SPOT	*	5,765	1,180		6,946
46. KINGFISHES	*	63	801	539	1,402
47. ATLANTIC CROAKER	*	3,264	570	7,128	10,962
48. BLACK DRUM	*	_	56	448	504
49. RED DRUM	*	_	173	1,000	1,182
50. DRUMS	*			495	509
51. MULLETS	*	38	749	281	1,068
52. BARRACUDAS	*	_	187	178	367
53. TAUTOG	515	658		*	1,175
54. CUNNER	545	1,194	*	*	1,739
55. LITTLE TUNNY/ATL.BONITO	*	_	351	181	540
56. ATLANTIC MACKEREL	72	_	*	*	100
57. KING MACKEREL	*	_			33
58. SPANISH MACKEREL	*		321	2,991	3,312
59. TUNAS/MACKERELS		144			171
60. SUMMER FLOUNDER	1,387	10,534	272	*	12,192
61. GULF FLOUNDER	*	*	*	171	171
62. SOUTHERN FLOUNDER	*		65	457	532
63. WINTER FLOUNDER	1,245	1,296	*	*	2,541
64. FLOUNDERS	33	634	*	317	985
65. TRIGGERFISHES/FILEFISHES	*		109	59	170
66. PUFFERS		220	312	210	744
67. OTHER FISHES	169	1,441	744	6,570	8,923
TOTALS	14,429	58,283	20,813	56,817	150,341

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: SEE TABLES 46 THROUGH 50 FOR STANDARD ERRORS OF THE ESTIMATED NUMBER OF FISH CAUGHT.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

CATCH TYPE B2: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH RELEASED ALIVE, AS REPORTED BY THE FISHERMEN.

TABLE 5. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY TYPE, WAVE, AND SUBREGION, JAN 1986--DEC 1986

WAVE SUBREGION	CATCH TYPE A	CATCH TYPE B1	CATCH TYPE B2	TOTAL
	THOUSANDS			
JAN/FEB				
SOUTH ATLANTIC	1,578	633	1,526	3,737
GULF	2,151	1,928	1,681	5,761
TOTALS	3,729	2,562	3,207	9,498
MAR/APR				
NORTH ATLANTIC	536	266	210	1,012
MID ATLANTIC	3,683	1,399	543	5,625
SOUTH ATLANTIC	1,645	466	912	3,024
GULF	3,786	5,824	5,259	14,869
TOTALS	9,650	7,955	6,924	24,529
MAY/JUN				
NORTH ATLANTIC	3,164	2,489	1,791	7,444
MID ATLANTIC	15,843	3,790	8,319	27,952
SOUTH ATLANTIC	8,310	3,693	4,059	16,062
GULF	6,224	7,349	17,028	30,601
TOTALS	33,542	17,321	31,197	82,060
JUL/AUG				
NORTH ATLANTIC	9,138	4,220	4,491	17,848
MID ATLANTIC	27,774	6,643	31,093	65,510
SOUTH ATLANTIC	7,013	4,464	7,643	19,120
GULF	6,364	11,933	11,566	29,863
TOTALS	50,288	27,260	54,793	132,341
SEP/OCT				
NORTH ATLANTIC	12,242	7,508	6,828	26,579
MID ATLANTIC	27,918	10,980	16,651	55,549
SOUTH ATLANTIC	4,392	3,366	5,200	12,958
GULF	6,667	11,726	14,426	32,819
TOTALS	51,219	33,580	43,105	127,904
NOV/DEC				
NORTH ATLANTIC	921	1,740	1,109	3,771
MID ATLANTIC	3,885	3,472	1,677	9,034
SOUTH ATLANTIC	1,824	849	1,473	4,146
GULF	5,841	5,255	6,856	17,952
TOTALS	12,472	11,316	11,115	34,904
GRAND TOTALS	160,901	99,993	150,341	411,235

NOTE: REFER TO TABLES 2, 3, AND 4 FOR DEFINITIONS OF CATCH TYPE A, CATCH TYPE B1, AND CATCH TYPE B2, RESPECTIVELY.

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

TABLE 6. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN, BY SPECIES GROUP AND STATE, NORTH ATLANTIC SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	MAINE	NEW HAMPSHIRE	MASSACHUSETTS	RHODE ISLAND	CONNECTICUT	TOTALS
			THOUSANDS			
01. SHARKS		*				33
02. SHARKS, DOGFISH	170	134	60	-	-	410
03. SKATES/RAYS	-	-	367	-	108	521
04. EELS	*	*	-	-	-	42
05. HERRINGS			160	143	378	701
08. TOADFISHES	-	-	*	*		
09. ATLANTIC COD	627	105	644	82	34	1,493
10. ATLANTIC TOMCOD	*	*	-	348	*	349
11. POLLOCK	215	148	62			436
12. SILVER HAKE	-	*	*	-	-	
13. SEAROBINS		-	352	104	372	834
14. SCULPINS	309	-	-	-	-	318
15. WHITE PERCH	*	*		*	*	
16. STRIPED BASS	-	*	655			683
17. BLACK SEA BASS	*		653	87	239	981
20. BLUEFISH	240	110	3,813	3,784	2,699	10,646
36. SCUP	*	*	13,096	1,581	6,890	21,567
42. WEAKFISH	*	*	*			
53. TAUTOG	*	-	2,742	1,065	371	4,179
54. CUNNER	-	-	108	517	690	1,321
55. LITTLE TUNNY/ATL.BONITO	*	*		533		563
56. ATLANTIC MACKEREL	679	-	364	95	70	1,238
59. TUNAS/MACKERELS	*	*				33
60. SUMMER FLOUNDER	*	-	1,523	1,857	924	4,305
63. WINTER FLOUNDER	70	48	1,052	3,638	604	5,411
64. FLOUNDERS	-	*	-	-	-	55
65. TRIGGERFISHES/FILEFISHES	*	*	*	-	*	-
66. PUFFERS	*	*	-	*	-	-
67. OTHER FISHES	150	52	300	-	*	505
TOTALS	2,507	683	26,033	13,954	13,477	56,654

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW & COLUMN TOTALS.

TABLE 7. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN, BY SPECIES GROUP AND STATE, MID-ATLANTIC SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NEW YORK	NEW JERSEY	DELAWARE	MARYLAND	VIRGINIA	TOTALS
			THOUSANDS			
01. SHARKS	111	96	701		217	1,141
02. SHARKS, DOGFISH	183	1,136	69	61	115	1,563
03. SKATES/RAYS	81	45	143		114	409
04. EELS	92	82	-	60	50	285
05. HERRINGS	340	152	*	77	515	1,085
06. FRESHWATER CATFISHES	*			565	113	695
07. SALTWATER CATFISHES	*	*	*	*		
08. TOADFISHES	74	158	440	759	1,273	2,705
09. ATLANTIC COD	38		*	*	*	56
10. ATLANTIC TOMCOD	*	*		*	*	-
11. POLLOCK	-		-	*		
12. SILVER HAKE	-	159	*	*	*	160
13. SEAROBINS	2,206	8,263	146	49	244	10,908
14. SCULPINS			*	*	*	
15. WHITE PERCH	*	367	-	3,524	82	3,978
16. STRIPED BASS	149	43	*	502	-	706
17. BLACK SEA BASS	1,204	22,370	401	1,106	5,177	30,257
19. SEA BASSES		*	*			
20. BLUEFISH	7,512	6,001	233	3,064	1,569	18,379
23. GREATER AMBERJACK	*	*	*	*	37	37
24. FLORIDA POMPANO	*	*	*	*		
25. JACKS	-	138	*	-	-	148
26. DOLPHINS			*			37
33. PIGFISH	*	*	*	*	104	104
35. GRUNTS	*	*	*	*		
36. SCUP	10,301	458	*	*	35	10,794
37. PINFISH	*	*	*	*	-	
38. SHEEPSHEAD	-	*	*	*	-	31
40. PORGIES	*	*	*	*		
41. SPOTTED SEATROUT	*	*	*	32	147	179
42. WEAKFISH	31	3,122	1,181	2,448	4,323	11,106
44. SILVER PERCH	*	*	*	*	-	-

TABLE 7. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN, BY SPECIES GROUP AND STATE, MID-ATLANTIC SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NEW YORK	NEW JERSEY	DELAWARE	MARYLAND	VIRGINIA	TOTALS
	THOUSANDS					
45. SPOT	_	90	_	7,321	8,309	15,738
46. KINGFISHES	_	291	*		346	656
47. ATLANTIC CROAKER	*	*		207	12,775	12,988
48. BLACK DRUM	*		_			34
		_	_	_	_	
49. RED DRUM	*	*	*		47	57
50. DRUMS	*	*	*	_		36
51. MULLETS		*	*	*	45	46
52. BARRACUDAS	_	*	*	*		
	*	*	*		_	_
53. TAUTOG	1,638	2,540	297		509	4,996
54. CUNNER	1,272	110	*	_	*	1,383
55. LITTLE TUNNY/ATL.BONITO			*	*		54
56. ATLANTIC MACKEREL	31	2,706	1,104	248	554	4,642
57. KING MACKEREL	*	*	*			
58. SPANISH MACKEREL	*		*	_	_	--
59. TUNAS/MACKERELS	157	297	*	_	64	534
60. SUMMER FLOUNDER	4,375	11,763	300	512	1,444	18,394
62. SOUTHERN FLOUNDER	*	*	*	*		
63. WINTER FLOUNDER	4,357	660	*	*	_	5,016
64. FLOUNDERS	40	724	*		*	
65. TRIGGERFISHES/FILEFISHES				_	62	828
	_	_	_	*	_	60
66. PUFFERS		67			280	391
67. OTHER FISHES	1,114	697	_	970	123	2,930
TOTALS	35,443	62,599	5,102	21,656	38,869	163,670

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW & COLUMN TOTALS.

END OF TABLE

TABLE 8. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN, BY SPECIES GROUP AND STATE, SOUTH ATLANTIC SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH CAROLINA	SOUTH CAROLINA	GEORGIA	FLORIDA	TOTALS
			THOUSANDS		
01. SHARKS	53	207	-	173	452
02. SHARKS, DOGFISH	173	*	-	-	179
03. SKATES/RAYS	226	32	39	-	306
04. EELS	*	-	-	-	-
05. HERRINGS	93	57	87	4,830	5,068
06. FRESHWATER CATFISHES	-	*	63	-	94
07. SALTWATER CATFISHES	*	253	625	2,154	3,033
08. TOADFISHES	69	138	81	271	559
13. SEAROBINS	67	*	-	-	75
15. WHITE PERCH	144	*	*	*	144
16. STRIPED BASS	-	*	-	*	-
17. BLACK SEA BASS	217	531	102	828	1,677
18. GROUPERS	51	-	-	87	156
19. SEA BASSES	-	-	-	100	138
20. BLUEFISH	1,861	159	40	1,041	3,101
21. JACK CREVALLE	-	69	75	2,395	2,566
22. BLUE RUNNER	*	*	-	2,671	2,671
23. GREATER AMBERJACK	-	33	-	76	123
24. FLORIDA POMPANO	1,600	159	*	70	1,830
25. JACKS	308	-	-	437	747
26. DOLPHINS	34	72	-	496	603
27. GRAY SNAPPER	-	*	*	529	529
28. RED SNAPPER	*	-	-	209	210
29. LANE SNAPPER	*	*	*	45	45
30. VERMILION SNAPPER	*	-	-	40	56
31. YELLOWTAIL SNAPPER	*	*	*	278	278
32. SNAPPERS	*	*	*	134	134
33. PIGFISH	294	-	31	*	338
34. WHITE GRUNT	*	*	*	698	698
35. GRUNTS	-	*	-	1,010	1,036
37. PINFISH	1,646	173	52	675	2,547
38. SHEEPSHEAD	45	70	45	679	839

TABLE 8. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN, BY SPECIES GROUP AND STATE, SOUTH ATLANTIC SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH CAROLINA	SOUTH CAROLINA	GEORGIA	FLORIDA	TOTALS
	THOUSANDS				
39. RED PORGY	—	—	—	*	—
40. PORGIES	—	*	—	130	134
41. SPOTTED SEATROUT	273	576	529	580	1,958
42. WEAKFISH	980	78	—	131	1,204
44. SILVER PERCH	*		134	*	154
45. SPOT	3,638	1,863	136	124	5,761
46. KINGFISHES	1,108	1,049	125	990	3,271
47. ATLANTIC CROAKER	487	616	97	4,888	6,088
48. BLACK DRUM	—		54	315	403
49. RED DRUM	—	196	134	211	553
50. DRUMS	—	*	*	235	237
51. MULLETS	45	84	167	1,416	1,713
52. BARRACUDAS	—	62		189	253
53. TAUTOG	—	*	—	*	
55. LITTLE TUNNY/ATL.BONITO		34		605	655
57. KING MACKEREL	141	254	—	195	592
58. SPANISH MACKEREL	660	163		219	1,066
59. TUNAS/MACKERELS	37	65	—	48	150
60. SUMMER FLOUNDER	1,472	*			1,484
62. SOUTHERN FLOUNDER	62	206	32	141	441
65. TRIGGERFISHES/FILEFISHES				156	158
66. PUFFERS	164	70	—	143	378
67. OTHER FISHES	107	160	83	1,750	2,100
TOTALS	16,195	7,527	2,880	32,444	59,047

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW & COLUMN TOTALS.

END OF TABLE

TABLE 9. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN, BY SPECIES GROUP AND STATE, GULF SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	FLORIDA	ALABAMA	MISSISSIPPI	LOUISIANA	TEXAS	TOTALS
			THOUSANDS			
01. SHARKS	560		40	90	*	695
02. SHARKS, DOGFISH		*	*	*	*	
03. SKATES/RAYS	325		32	38	*	404
04. EELS	-	-	-	-	*	54
05. HERRINGS	1,774		82	2,264	*	4,148
06. FRESHWATER CATFISHES	559	49		326	*	938
07. SALTWATER CATFISHES	3,264	115	538	11,414	*	15,331
08. TOADFISHES	135	-	42	-	*	200
13. SEAROBINS	40	*		*	*	41
16. STRIPED BASS		*	-		*	
17. BLACK SEA BASS	1,824	*	*	*	*	1,824
18. GROUPERS	2,196	-	-	-	*	2,227
19. SEA BASSES	1,145				*	1,152
20. BLUEFISH	400	71	-	56	*	541
21. JACK CREVALLE	679		-	64	*	761
22. BLUE RUNNER	555	128	*	-	*	687
23. GREATER AMBERJACK	265		*		*	282
24. FLORIDA POMPANO	250	-	*	-	*	253
25. JACKS	1,810	-	-	-	*	1,815
26. DOLPHINS	582	-	-	-	*	614
27. GRAY SNAPPER	1,540	*			*	1,561
28. RED SNAPPER	200	158	-	286	*	645
29. LANE SNAPPER	166		*	-	*	174
30. VERMILION SNAPPER	208	92	*	-	*	303
31. YELLOWTAIL SNAPPER	302	*	*		*	302
32. SNAPPERS	196		*	-	*	199
33. PIGFISH	989	-		*	*	1,011
34. WHITE GRUNT	992	*	*	*	*	992
35. GRUNTS	2,276		*		*	2,279
37. PINFISH	6,454	191	296	383	*	7,325
38. SHEEPSHEAD	745	93	45	969	*	1,852
39. RED PORGY	253	-	*	*	*	255

TABLE 9. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN, BY SPECIES GROUP AND STATE, GULF SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	FLORIDA	ALABAMA	MISSISSIPPI	LOUISIANA	TEXAS	TOTALS
	THOUSANDS					
40. PORGIES	47		*	41	*	88
41. SPOTTED SEATROUT	7,603	124	689	13,038	*	21,455
43. SAND SEATROUT	2,379	387	1,117	2,522	*	6,404
44. SILVER PERCH	264	*	-	-	*	298
45. SPOT	132				*	142
46. KINGFISHES	3,689	178	191	44	*	4,102
47. ATLANTIC CROAKER	2,420	399	806	11,287	*	14,912
48. BLACK DRUM	246	-	-	1,156	*	1,430
49. RED DRUM	1,185	53	123	2,152	*	3,513
50. DRUMS	1,153	-		92	*	1,281
51. MULLETS	4,254	-	116	188	*	4,582
52. BARRACUDAS	220	-	*	-	*	221
55. LITTLE TUNNY/ATL.BONITO	461	-	-	-	*	523
57. KING MACKEREL	112			-	*	147
58. SPANISH MACKEREL	7,502	239	163	-	*	7,914
59. TUNAS/MACKERELS	202	-	-	-	*	209
61. GULF FLOUNDER	443			49	*	502
62. SOUTHERN FLOUNDER	215	63	85	2,205	*	2,568
64. FLOUNDERS	287	-	-	1,249	*	1,539
65. TRIGGERFISHES/FILEFISHES	191	-	*	-	*	231
66. PUFFERS	189	*		38	*	227
67. OTHER FISHES	4,703	80	75	5,806	*	10,663
TOTALS	68,630	2,658	4,644	55,933	0	131,865

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW & COLUMN TOTALS.

NOTE: TEXAS DATA ARE NOT INCLUDED IN THIS TABLE, AS WELL AS GULF SUBREGIONS TABLES.

END OF TABLE

TABLE 10. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SUBREGION AND AREA OF FISHING, JAN 1986--DEC 1986

SUBREGION	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSANDS						
NORTH ATLANTIC	19,649	11,831	*	*	25,174	*	56,654
MID ATLANTIC	39,873	29,247	*	*	81,460	13,090	163,670
SOUTH ATLANTIC	31,926	4,324	*	*	22,796	*	59,047
GULF	74,947	4,742	6,815	6,800	38,561	*	131,865
TOTALS	166,396	50,144	6,815	6,800	167,991	13,090	411,235

1. THIS CATEGORY INCLUDES "MISSING DATA" ON AREA, AND LOCAL VARIATION IN MARINE GEOGRAPHIC TERMINOLOGY WHICH SOMETIMES PREVENTED INTERVIEWERS FROM DETERMINING ACCEPTABLE ANSWERS TO QUESTIONS ON "DISTANCE FROM SHORE."

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

TABLE 11. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SUBREGION AND MODE OF FISHING, JAN 1986--DEC 1986

SUBREGION	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
	THOUSANDS			
NORTH ATLANTIC	6,924	8,114	41,616	56,654
MID ATLANTIC	19,067	41,906	102,697	163,670
SOUTH ATLANTIC	39,398	1,210	18,438	59,047
GULF	34,890	3,655	93,319	131,865
TOTALS	100,280	54,886	256,069	411,235

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

TABLE 12. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY AREA OF FISHING AND MODE OF FISHING FOR EACH SUBREGION
JAN 1986--DEC 1986

MODE	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
				------THOUSANDS------			
NORTH ATLANTIC							
SHORE	2,808	*	*	*	4,117	*	6,924
PARTY/CHARTER	2,496	4,965	*	*	653	*	8,114
PRIVATE/RENTAL	14,346	6,865	*	*	20,404	*	41,616
TOTALS	19,649	11,831	0	0	25,174	0	56,654
MID ATLANTIC							
SHORE	4,723	*	*	*	13,051	1,293	19,067
PARTY/CHARTER	15,851	17,738	*	*	6,639	1,678	41,906
PRIVATE/RENTAL	19,299	11,509	*	*	61,770	10,119	102,697
TOTALS	39,873	29,247	0	0	81,460	13,090	163,670
SOUTH ATLANTIC							
SHORE	28,675	*	*	*	10,723	*	39,398
PARTY/CHARTER	302	847	*	*	61	*	1,210
PRIVATE/RENTAL	2,949	3,477	*	*	12,012	*	18,438
TOTALS	31,926	4,324	0	0	22,796	0	59,047
GULF							
SHORE	21,774	*	*	*	13,116	*	34,890
PARTY/CHARTER	498	946	443	1,413	355	*	3,655
PRIVATE/RENTAL	52,674	3,797	6,372	5,387	25,089	*	93,319
TOTALS	74,947	4,742	6,815	6,800	38,561	0	131,865

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

TABLE 13. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SUBREGION AND AREA OF FISHING
JAN 1986--DEC 1986

SUBREGION	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSANDS						
NORTH ATLANTIC	9,167	4,076	*	*	12,758	*	26,001
MID ATLANTIC	19,768	13,889	*	*	37,947	7,499	79,104
SOUTH ATLANTIC	8,593	2,329	*	*	13,839	*	24,762
GULF	12,945	2,339	1,443	1,952	12,355	*	31,034
TOTALS	50,473	22,634	1,443	1,952	76,900	7,499	160,901

1. THIS CATEGORY INCLUDES "MISSING DATA" ON AREA, AND LOCAL VARIATION IN MARINE GEOGRAPHIC TERMINOLOGY WHICH SOMETIMES PREVENTED INTERVIEWERS FROM DETERMINING ACCEPTABLE ANSWERS TO QUESTIONS ON "DISTANCE FROM SHORE."

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

TABLE 14. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SUBREGION AND MODE OF FISHING
JAN 1986--DEC 1986

SUBREGION	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
		THOUSANDS		
NORTH ATLANTIC	2,894	2,189	20,918	26,001
MID ATLANTIC	7,209	24,279	47,616	79,104
SOUTH ATLANTIC	15,058	864	8,841	24,762
GULF	8,118	1,731	21,184	31,034
TOTALS	33,278	29,063	98,560	160,901

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

TABLE 15. ESTIMATED NUMBER OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY AREA OF FISHING AND MODE OF FISHING FOR EACH SUBREGION, JAN 1986--DEC 1986

MODE	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
				THOUSANDS			
NORTH ATLANTIC							
SHORE	676	*	*	*	2,218	*	2,894
PARTY/CHARTER	1,038	942	*	*	209	*	2,189
PRIVATE/RENTAL	7,453	3,134	*	*	10,331	*	20,918
TOTALS	9,167	4,076	0	0	12,758	0	26,001
MID ATLANTIC							
SHORE	1,267	*	*	*	5,750	191	7,209
PARTY/CHARTER	11,257	7,873	*	*	3,749	1,400	24,279
PRIVATE/RENTAL	7,243	6,016	*	*	28,448	5,909	47,616
TOTALS	19,768	13,889	0	0	37,947	7,499	79,104
SOUTH ATLANTIC							
SHORE	7,392	*	*	*	7,665	*	15,058
PARTY/CHARTER	180	675	*	*	9	*	864
PRIVATE/RENTAL	1,021	1,655	*	*	6,165	*	8,841
TOTALS	8,593	2,329	0	0	13,839	0	24,762
GULF							
SHORE	4,646	*	*	*	3,473	*	8,118
PARTY/CHARTER	195	791	65	479	202	*	1,731
PRIVATE/RENTAL	8,104	1,548	1,379	1,473	8,681	*	21,184
TOTALS	12,945	2,339	1,443	1,952	12,355	0	31,034

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

TABLE 16. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING
ALL SUBREGIONS COMBINED, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
			THOUSANDS				
01. SHARKS	861	978	99	66	281	37	2,322
02. SHARKS, DOGFISH	1,015	481	-	*	610	65	2,172
03. SKATES/RAYS	949	194	-	-	463	-	1,639
04. EELS	-	-	-	-	363	-	410
05. HERRINGS	9,299	129	*	43	1,531	*	11,002
06. FRESHWATER CATFISHES	327	50	-	*	1,344	-	1,727
07. SALTWATER CATFISHES	9,246	832	274	92	7,924	*	18,368
08. TOADFISHES	245	431	*	-	2,428	352	3,464
09. ATLANTIC COD	309	1,167	*	*	74	*	1,549
10. ATLANTIC TOMCOD	*	-	*	*	337	*	355
11. POLLOCK	176	113	*	*	157	-	446
12. SILVER HAKE	*	167	*	*	-	*	168
13. SEAROBINS	4,260	752	-	-	6,723	119	11,858
14. SCULPINS	59	196	*	*	69	*	323
15. WHITE PERCH	412	*	*	*	3,707	-	4,125
16. STRIPED BASS	828	-	*	*	586	-	1,429
17. BLACK SEA BASS	12,451	11,975	256	821	7,935	1,300	34,739
18. GROUPERS	521	83	194	1,523	62	*	2,383
19. SEA BASSES	707	-	156	307	104	-	1,300
20. BLUEFISH	10,542	7,826	45	34	13,690	530	32,667
21. JACK CREVALLE	2,558	68	-	-	663	*	3,328
22. BLUE RUNNER	2,883	97	128	-	243	*	3,358
23. GREATER AMBERJACK	44	154	47	186	-	-	442
24. FLORIDA POMPANO	2,049	-	-	*	43	*	2,099
25. JACKS	1,886	-	354	310	142	-	2,710
26. DOLPHINS	218	668	242	125	-	*	1,254
27. GRAY SNAPPER	1,506	81	41	108	353	*	2,090
28. RED SNAPPER	74	622	55	101	-	*	855
29. LANE SNAPPER	100	-	32	60	-	*	218
30. VERMILION SNAPPER	31	120	53	125	31	*	359
31. YELLOWTAIL SNAPPER	388	80	84	-	-	*	580
32. SNAPPERS	224	-	-	-	-	*	334
33. PIGFISH	909	-	55	45	386	57	1,453
34. WHITE GRUNT	730	165	200	250	347	*	1,690
35. GRUNTS	1,619	208	313	584	595	-	3,320
36. SCUP	10,542	3,978	*	*	17,819	-	32,361
37. PINFISH	5,343	85	265	395	3,790	-	9,882
38. SHEEPSHEAD	804	-	31	-	1,846	*	2,722
39. RED PORGY	-	-	60	181	-	*	269
40. PORGIES	99	95	-	-	-	*	225

TABLE 16. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING
ALL SUBREGIONS COMBINED, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSANDS						
41. SPOTTED SEATROUT	10,485	1,492	1,064	132	10,368	51	23,592
42. WEAKFISH	3,576	2,121	*	*	3,743	2,881	12,322
43. SAND SEATROUT	3,596	214	277	_	2,312	*	6,404
44. SILVER PERCH	261	*	_	*	188	_	465
45. SPOT	5,491	205	_	*	12,499	3,416	21,640
46. KINGFISHES	6,300	139	115	38	1,285	151	8,029
47. ATLANTIC CROAKER	8,797	633	87	_	21,270	3,189	33,989
48. BLACK DRUM	531	_	_	_	1,287	_	1,867
49. RED DRUM	1,837	113	32	_	2,126	_	4,123
50. DRUMS	1,014	56	162	31	290	_	1,554
51. MULLETS	4,222	_	183	*	1,874	38	6,341
52. BARRACUDAS	162	204	_	87	_	*	477
53. TAUTOG	3,545	2,597	*	*	2,733	311	9,186
54. CUNNER	426	477	*	*	1,801	*	2,703
55. LITTLE TUNNY/ATL.BONITO	530	968	221	51	_	*	1,795
56. ATLANTIC MACKEREL	529	4,839	*	*	510	_	5,879
57. KING MACKEREL	188	479	58	_	_	*	753
58. SPANISH MACKEREL	6,910	441	874	548	214	_	8,987
59. TUNAS/MACKERELS	155	604	140	_	_	*	927
60. SUMMER FLOUNDER	9,734	881	*	*	13,271	297	24,183
61. GULF FLOUNDER	310	_	_	_	159	*	502
62. SOUTHERN FLOUNDER	833	99	_	_	2,075	*	3,021
63. WINTER FLOUNDER	1,318	205	*	*	8,905	*	10,428
64. FLOUNDERS	1,770	38	_	_	599	*	2,422
65. TRIGGERFISHES/FILEFISHES	203	103	43	89	_	_	452
66. PUFFERS	313	_	_	_	512	142	1,000
67. OTHER FISHES	9,111	1,205	391	262	5,181	49	16,199
TOTALS	166,396	50,144	6,815	6,800	167,991	13,090	411,235

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

1. THIS CATEGORY INCLUDES "MISSING DATA" ON AREA, AND LOCAL VARIATION IN MARINE GEOGRAPHIC TERMINOLOGY WHICH SOMETIMES PREVENTED INTERVIEWERS FROM DETERMINING ACCEPTABLE ANSWERS TO QUESTIONS ON "DISTANCE FROM SHORE."

TABLE 17. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING
NORTH ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
			THOUSANDS				
01. SHARKS			*	*		*	33
02. SHARKS, DOGFISH	139	220	*	*	51	*	410
03. SKATES/RAYS	318		*	*	182	*	521
04. EELS	_	*	*	*	31	*	42
05. HERRINGS	136	*	*	*	566	*	701
08. TOADFISHES	*	*	*	*		*	
09. ATLANTIC COD	308	1,111	*	*	74	*	1,493
10. ATLANTIC TOMCOD	*	_	*	*	337	*	349
11. POLLOCK	175	104	*	*	157	*	436
12. SILVER HAKE	*		*	*	*	*	
13. SEAROBINS	209	227	*	*	398	*	834
14. SCULPINS	56	193	*	*	68	*	318
15. WHITE PERCH	*	*	*	*		*	
16. STRIPED BASS	657		*	*	_	*	683
17. BLACK SEA BASS	319	242	*	*	419	*	981
20. BLUEFISH	3,760	3,684	*	*	3,203	*	10,646
36. SCUP	7,115	3,666	*	*	10,786	*	21,567
42. WEAKFISH		*	*	*		*	
53. TAUTOG	2,311	853	*	*	1,015	*	4,179
54. CUNNER	269	247	*	*	805	*	1,321
55. LITTLE TUNNY/ATL.BONITO		541	*	*		*	563
56. ATLANTIC MACKEREL	514	229	*	*	495	*	1,238
59. TUNAS/MACKERELS			*	*		*	33
60. SUMMER FLOUNDER	2,242	95	*	*	1,969	*	4,305
63. WINTER FLOUNDER	939	108	*	*	4,364	*	5,411
64. FLOUNDERS			*	*		*	55
65. TRIGGERFISHES/FILEFISHES	*	*	*	*	_	*	
66. PUFFERS	*	*	*	*	_	*	_
67. OTHER FISHES	135	201	*	*	170	*	505
TOTALS	19,649	11,831	0	0	25,174	0	56,654

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

1. THIS CATEGORY INCLUDES "MISSING DATA" ON AREA, AND LOCAL VARIATION IN MARINE GEOGRAPHIC TERMINOLOGY WHICH SOMETIMES PREVENTED INTERVIEWERS FROM DETERMINING ACCEPTABLE ANSWERS TO QUESTIONS ON "DISTANCE FROM SHORE."

TABLE 18. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING
MID-ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSANDS						
01. SHARKS	215	793	*	*	96	37	1,141
02. SHARKS, DOGFISH	692	258	*	*	548	65	1,563
03. SKATES/RAYS	97	170	*	*	121	-	409
04. EELS	-	-	*	*	275	-	285
05. HERRINGS	559	112	*	*	414	*	1,085
06. FRESHWATER CATFISHES	90	-	*	*	602	-	695
07. SALTWATER CATFISHES	*	*	*	*		*	
08. TOADFISHES	148	423	*	*	1,781	352	2,705
09. ATLANTIC COD		56	*	*	*	*	56
10. ATLANTIC TOMCOD	*		*	*	*	*	
11. POLLOCK	-	-	*	*	*		-
12. SILVER HAKE	*	159	*	*	-	*	160
13. SEAROBINS	3,984	524	*	*	6,281	119	10,908
14. SCULPINS			*	*		*	
15. WHITE PERCH	412	*	*	*	3,560	-	3,978
16. STRIPED BASS	163	-	*	*	533	-	706
17. BLACK SEA BASS	11,079	10,973	*	*	6,905	1,300	30,257
19. SEA BASSES		*	*	*			
20. BLUEFISH	4,374	3,991	*	*	9,484	530	18,379
23. GREATER AMBERJACK	-	-	*	*	*	-	37
24. FLORIDA POMPANO		*	*	*	*	*	
25. JACKS	60		*	*	82	-	148
26. DOLPHINS	-	37	*	*	*	*	37
33. PIGFISH	-	-	*	*	44	57	104
35. GRUNTS			*	*	*	-	
36. SCUP	3,427	312	*	*	7,033	-	10,794
37. PINFISH	-	*	*	*	*	-	
38. SHEEPSHEAD	-	-	*	*	-	*	31
40. PORGIES	*	*	*	*		*	
41. SPOTTED SEATROUT	36	-	*	*	91	51	179

TABLE 18. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING
MID-ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSANDS						
42. WEAKFISH	2,770	2,119	*	*	3,335	2,881	11,106
44. SILVER PERCH	_	*	*	*	_	_	_
45. SPOT	1,013	182	*	*	11,126	3,416	15,738
46. KINGFISHES	86	94	*	*	324	151	656
47. ATLANTIC CROAKER	459	259	*	*	9,081	3,189	12,988
48. BLACK DRUM	_	_	*	*	_	_	34
49. RED DRUM	_	_	*	*	43	_	57
50. DRUMS	*	_	*	*	_	_	36
51. MULLETS	*	_	*	*	_	38	46
52. BARRACUDAS	_	_	*	*	_	*	_
53. TAUTOG	1,227	1,744	*	*	1,714	311	4,996
54. CUNNER	156	230	*	*	996	*	1,383
55. LITTLE TUNNY/ATL.BONITO	_	45	*	*	_	*	54
56. ATLANTIC MACKEREL	_	4,610	*	*	_	_	4,642
57. KING MACKEREL	*	_	*	*	*	*	_
58. SPANISH MACKEREL	_	_	*	*	*	_	_
59. TUNAS/MACKERELS	77	457	*	*	*	_	534
60. SUMMER FLOUNDER	7,162	781	*	*	10,155	297	18,394
62. SOUTHERN FLOUNDER	*	*	*	*	_	*	_
63. WINTER FLOUNDER	379	97	*	*	4,540	*	5,016
64. FLOUNDERS	372	_	*	*	443	*	828
65. TRIGGERFISHES/FILEFISHES	48	_	*	*	_	_	60
66. PUFFERS	_	_	*	*	213	142	391
67. OTHER FISHES	676	664	*	*	1,541	49	2,930
TOTALS	39,873	29,247	0	0	81,460	13,090	163,670

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

1. THIS CATEGORY INCLUDES "MISSING DATA" ON AREA, AND LOCAL VARIATION IN MARINE GEOGRAPHIC TERMINOLOGY WHICH SOMETIMES PREVENTED INTERVIEWERS FROM DETERMINING ACCEPTABLE ANSWERS TO QUESTIONS ON "DISTANCE FROM SHORE."

TABLE 19. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING
SOUTH ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
			THOUSANDS				
01. SHARKS	195	116	*	*	142	*	452
02. SHARKS, DOGFISH	168	-	*	*	-	*	179
03. SKATES/RAYS	226	-	*	*	79	*	306
04. EELS	-	-	*	*	-	*	-
05. HERRINGS	4,974	-	*	*	77	*	5,068
06. FRESHWATER CATFISHES	-	*	*	*	86	*	94
07. SALTWATER CATFISHES	1,189	-	*	*	1,839	*	3,033
08. TOADFISHES	38	-	*	*	514	*	559
13. SEAROBINS	31	-	*	*	43	*	75
15. WHITE PERCH	*	*	*	*	144	*	144
16. STRIPED BASS	*	*	*	*	-	*	-
17. BLACK SEA BASS	345	759	*	*	573	*	1,677
18. GROUPERS	72	40	*	*	44	*	156
19. SEA BASSES	44	-	*	*	78	*	138
20. BLUEFISH	2,148	99	*	*	853	*	3,101
21. JACK CREVALLE	1,872	36	*	*	659	*	2,566
22. BLUE RUNNER	2,392	83	*	*	197	*	2,671
23. GREATER AMBERJACK	-	100	*	*	-	*	123
24. FLORIDA POMPANO	1,786	-	*	*	43	*	1,830
25. JACKS	736	-	*	*	-	*	747
26. DOLPHINS	54	549	*	*	*	*	603
27. GRAY SNAPPER	230	71	*	*	228	*	529
28. RED SNAPPER	-	208	*	*	-	*	210
29. LANE SNAPPER	-	-	*	*	-	*	45
30. VERMILION SNAPPER	*	-	*	*	31	*	56
31. YELLOWTAIL SNAPPER	214	64	*	*	*	*	278
32. SNAPPERS	77	-	*	*	-	*	134
33. PIGFISH	143	-	*	*	194	*	338
34. WHITE GRUNT	554	144	*	*	*	*	698
35. GRUNTS	301	200	*	*	535	*	1,036

TABLE 19. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING SOUTH ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
			THOUSANDS				
37. PINFISH	1,277	79	*	*	1,190	*	2,547
38. SHEEPSHEAD	55	_	*	*	774	*	839
39. RED PORGY	_	_	*	*	_	*	_
40. PORGIES	40	92	*	*	_	*	134
41. SPOTTED SEATROUT	229	_	*	*	1,728	*	1,958
42. WEAKFISH	802	_	*	*	401	*	1,204
44. SILVER PERCH	_	*	*	*	150	*	154
45. SPOT	4,421	_	*	*	1,316	*	5,761
46. KINGFISHES	2,651	_	*	*	602	*	3,271
47. ATLANTIC CROAKER	492	_	*	*	5,590	*	6,088
48. BLACK DRUM	_	_	*	*	368	*	403
49. RED DRUM	_	_	*	*	512	*	553
50. DRUMS	139	*	*	*	97	*	237
51. MULLETS	1,198	_	*	*	497	*	1,713
52. BARRACUDAS	63	182	*	*	_	*	253
53. TAUTOG	_	*	*	*	_	*	_
55. LITTLE TUNNY/ATL.BONITO	324	331	*	*	_	*	655
57. KING MACKEREL	141	433	*	*	_	*	592
58. SPANISH MACKEREL	752	186	*	*	128	*	1,066
59. TUNAS/MACKERELS	_	114	*	*	_	*	150
60. SUMMER FLOUNDER	330	_	*	*	1,148	*	1,484
62. SOUTHERN FLOUNDER	64	_	*	*	375	*	441
65. TRIGGERFISHES/FILEFISHES	88	62	*	*	_	*	158
66. PUFFERS	136	*	*	*	242	*	378
67. OTHER FISHES	781	141	*	*	1,177	*	2,100
TOTALS	31,926	4,324	0	0	22,796	0	59,047

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

1. THIS CATEGORY INCLUDES "MISSING DATA" ON AREA, AND LOCAL VARIATION IN MARINE GEOGRAPHIC TERMINOLOGY WHICH SOMETIMES PREVENTED INTERVIEWERS FROM DETERMINING ACCEPTABLE ANSWERS TO QUESTIONS ON "DISTANCE FROM SHORE."

TABLE 20. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING
GULF SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSANDS						
01. SHARKS	449	53	99	66	-	*	695
02. SHARKS, DOGFISH	*	*	-	*	-	*	*
03. SKATES/RAYS	308	-	-	-	80	*	404
04. EELS	-	-	-	-	-	*	54
05. HERRINGS	3,630	*	*	43	474	*	4,148
06. FRESHWATER CATFISHES	229	48	*	*	656	*	938
07. SALTWATER CATFISHES	8,058	827	274	92	6,081	*	15,331
08. TOADFISHES	59	-	*	-	133	*	200
13. SEAROBINS	36	*	-	-	-	*	41
16. STRIPED BASS	*	*	*	*	-	*	*
17. BLACK SEA BASS	709	*	256	821	38	*	1,824
18. GROUPERS	449	43	194	1,523	-	*	2,227
19. SEA BASSES	658	-	156	307	-	*	1,152
20. BLUEFISH	260	52	45	34	149	*	541
21. JACK CREVALLE	686	32	-	-	-	*	761
22. BLUE RUNNER	491	-	128	-	47	*	687
23. GREATER AMBERJACK	-	-	47	186	*	*	282
24. FLORIDA POMPANO	246	*	-	*	*	*	253
25. JACKS	1,090	-	354	310	58	*	1,815
26. DOLPHINS	163	82	242	125	-	*	614
27. GRAY SNAPPER	1,276	-	41	108	126	*	1,561
28. RED SNAPPER	72	414	55	101	-	*	645
29. LANE SNAPPER	72	-	32	60	-	*	174
30. VERMILION SNAPPER	31	95	53	125	*	*	303
31. YELLOWTAIL SNAPPER	174	-	84	-	-	*	302
32. SNAPPERS	147	-	-	-	-	*	199
33. PIGFISH	762	-	55	45	149	*	1,011
34. WHITE GRUNT	175	-	200	250	347	*	992
35. GRUNTS	1,319	-	313	584	60	*	2,279
37. PINFISH	4,059	-	265	395	2,600	*	7,325

TABLE 20. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND AREA OF FISHING
GULF SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSANDS						
38. SHEEPSHEAD	746	_	31	_	1,045	*	1,852
39. RED PORGY	_	_	60	181	*	*	255
40. PORGIES	58	_	_	_	_	*	88
41. SPOTTED SEATROUT	10,221	1,490	1,064	132	8,549	*	21,455
43. SAND SEATROUT	3,596	214	277	_	2,312	*	6,404
44. SILVER PERCH	257	*	_	*	34	*	298
45. SPOT	56	*	_	*	57	*	142
46. KINGFISHES	3,562	_	115	38	359	*	4,102
47. ATLANTIC CROAKER	7,846	368	87	_	6,599	*	14,912
48. BLACK DRUM	495	_	_	_	913	*	1,430
49. RED DRUM	1,804	92	32	_	1,572	*	3,513
50. DRUMS	875	35	162	31	178	*	1,281
51. MULLETS	3,024	_	183	*	1,371	*	4,582
52. BARRACUDAS	98	_	_	87	*	*	221
55. LITTLE TUNNY/ATL.BONITO	200	51	221	51	_	*	523
57. KING MACKEREL	47	32	58	_	_	*	147
58. SPANISH MACKEREL	6,155	251	874	548	86	*	7,914
59. TUNAS/MACKERELS	42	_	140	_	_	*	209
61. GULF FLOUNDER	310	_	_	_	159	*	502
62. SOUTHERN FLOUNDER	768	96	_	_	1,688	*	2,568
64. FLOUNDERS	1,374	_	_	_	150	*	1,539
65. TRIGGERFISHES/FILEFISHES	67	33	43	89	*	*	231
66. PUFFERS	151	*	_	_	53	*	227
67. OTHER FISHES	7,519	198	391	262	2,293	*	10,663
TOTALS	74,947	4,742	6,815	6,800	38,561	0	131,865

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

1. THIS CATEGORY INCLUDES "MISSING DATA" ON AREA, AND LOCAL VARIATION IN MARINE GEOGRAPHIC TERMINOLOGY WHICH SOMETIMES PREVENTED INTERVIEWERS FROM DETERMINING ACCEPTABLE ANSWERS TO QUESTIONS ON "DISTANCE FROM SHORE."

TABLE 21. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING
ALL SUBREGIONS COMBINED, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
		THOUSANDS		
01. SHARKS	168	111	2,043	2,322
02. SHARKS, DOGFISH	349	481	1,342	2,172
03. SKATES/RAYS	761	42	837	1,639
04. EELS	184	-	221	410
05. HERRINGS	6,929	107	3,966	11,002
06. FRESHWATER CATFISHES	607		1,119	1,727
07. SALTWATER CATFISHES	3,706	106	14,556	18,368
08. TOADFISHES	494	97	2,873	3,464
09. ATLANTIC COD	75	1,063	411	1,549
10. ATLANTIC TOMCOD			334	355
11. POLLOCK	130	116	200	446
12. SILVER HAKE	*	160	-	168
13. SEAROBINS	1,303	999	9,556	11,858
14. SCULPINS	55	31	237	323
15. WHITE PERCH	893		3,229	4,125
16. STRIPED BASS	614	66	749	1,429
17. BLACK SEA BASS	2,622	20,078	12,038	34,739
18. GROUPERS	136	206	2,041	2,383
19. SEA BASSES	83	95	1,122	1,300
20. BLUEFISH	10,460	6,641	15,566	32,667
21. JACK CREVALLE	2,421		884	3,328
22. BLUE RUNNER	2,900	-	439	3,358
23. GREATER AMBERJACK		213	216	442
24. FLORIDA POMPANO	1,904	-	195	2,099
25. JACKS	1,441	36	1,233	2,710
26. DOLPHINS		213	1,018	1,254
27. GRAY SNAPPER	906	81	1,103	2,090
28. RED SNAPPER	-	500	353	855
29. LANE SNAPPER			182	218
30. VERMILION SNAPPER	*	192	168	359
31. YELLOWTAIL SNAPPER	154		397	580
32. SNAPPERS	114	-	206	334
33. PIGFISH	755		690	1,453
34. WHITE GRUNT	547	145	999	1,690
35. GRUNTS	968	145	2,207	3,320
36. SCUP	2,235	3,386	26,740	32,361
37. PINFISH	6,183	131	3,568	9,882
38. SHEEPSHEAD	1,000		1,716	2,722
39. RED PORGY	*	88	181	269
40. PORGIES	-	-	214	225

TABLE 21. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING
ALL SUBREGIONS COMBINED, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
	THOUSANDS			
41. SPOTTED SEATROUT	1,920	416	21,256	23,592
42. WEAKFISH	984	1,938	9,399	12,322
43. SAND SEATROUT	562	199	5,644	6,404
44. SILVER PERCH	302	_	158	465
45. SPOT	7,228	2,730	11,682	21,640
46. KINGFISHES	6,163	_	1,842	8,029
47. ATLANTIC CROAKER	8,462	716	24,811	33,989
48. BLACK DRUM	628	_	1,221	1,867
49. RED DRUM	567	51	3,504	4,123
50. DRUMS	614	36	904	1,554
51. MULLETS	4,023	_	2,312	6,341
52. BARRACUDAS	53	43	381	477
53. TAUTOG	764	2,930	5,492	9,186
54. CUNNER	488	647	1,569	2,703
55. LITTLE TUNNY/ATL.BONITO	172	896	727	1,795
56. ATLANTIC MACKEREL	159	2,898	2,823	5,879
57. KING MACKEREL	56	108	589	753
58. SPANISH MACKEREL	4,605	335	4,047	8,987
59. TUNAS/MACKERELS	58	195	674	927
60. SUMMER FLOUNDER	2,446	3,003	18,734	24,183
61. GULF FLOUNDER	302	_	199	502
62. SOUTHERN FLOUNDER	258	_	2,756	3,021
63. WINTER FLOUNDER	1,042	935	8,450	10,428
64. FLOUNDERS	575	_	1,821	2,422
65. TRIGGERFISHES/FILEFISHES	46	165	241	452
66. PUFFERS	503	_	479	1,000
67. OTHER FISHES	6,131	875	9,192	16,199
TOTALS	100,280	54,886	256,069	411,235

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

TABLE 22. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING
NORTH ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
	THOUSANDS			
01. SHARKS	*			33
02. SHARKS, DOGFISH		16 7	23 7	410
03. SKATES/RAYS	27 8	–	239	521
04. EELS	–	–	–	42
05. HERRINGS	190	–	511	701
08. TOADFISHES	*		*	
09. ATLANTIC COD	75	1,01 6	401	1,49 3
10. ATLANTIC TOMCOD	–	–	334	349
11. POLLOCK	130	114	192	436
12. SILVER HAKE	*			
13. SEAROBINS	56	14 3	63 5	83 4
14. SCULPINS	55	–	237	318
15. WHITE PERCH	*		*	
16. STRIPED BASS	551	3 3	99	68 3
17. BLACK SEA BASS	83	191	707	981
20. BLUEFISH	2,212	3,231	5,204	10,646
36. SCUP	1,557	1,606	18,404	21,567
42. WEAKFISH	*	*		
53. TAUTOG	293	434	3,45 2	4,17 9
54. CUNNER	347	132	842	1,321
55. LITTLE TUNNY/ATL.BONITO		539		563
56. ATLANTIC MACKEREL	14 9	166	92 3	1,238
59. TUNAS/MACKERELS	*			33
60. SUMMER FLOUNDER	126	8 1	4,09 9	4,305
63. WINTER FLOUNDER	496	79	4,836	5,411
64. FLOUNDERS	–	–	–	55
65. TRIGGERFISHES/FILEFISHES	*	*	–	–
66. PUFFERS	–	*	–	–
67. OTHER FISHES	248	111	147	505
TOTALS	6,924	8,114	41,616	56,654

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

TABLE 23. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING
MID-ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
		THOUSANDS		
01. SHARKS	49	61	1,031	1,141
02. SHARKS, DOGFISH	169	313	1,081	1,563
03. SKATES/RAYS	52	-	328	409
04. EELS	133	-	149	285
05. HERRINGS	58	105	922	1,085
06. FRESHWATER CATFISHES	41	-	653	695
07. SALTWATER CATFISHES	*	*		
08. TOADFISHES	159	76	2,470	2,705
09. ATLANTIC COD	*	46	-	56
10. ATLANTIC TOMCOD	*	-	*	-
11. POLLOCK	*	-	-	-
12. SILVER HAKE	*	160	*	160
13. SEAROBINS	1,200	856	8,852	10,908
14. SCULPINS	*		*	
15. WHITE PERCH	893	*	3,086	3,978
16. STRIPED BASS	63	34	610	706
17. BLACK SEA BASS	2,155	19,417	8,685	30,257
19. SEA BASSES	*			
20. BLUEFISH	6,187	3,308	8,884	18,379
23. GREATER AMBERJACK	-	-	-	37
24. FLORIDA POMPANO		*	*	
25. JACKS	136	*		148
26. DOLPHINS	*	-	35	37
33. PIGFISH	-	-	98	104
35. GRUNTS	*			
36. SCUP	678	1,780	8,337	10,794
37. PINFISH		*		
38. SHEEPSHEAD	*	*	31	31
40. PORGIES	*	*		
41. SPOTTED SEATROUT	65		111	179
42. WEAKFISH	144	1,937	9,026	11,106
44. SILVER PERCH	*	-	-	-

TABLE 23. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING
MID-ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
	THOUSANDS			
45. SPOT	2,391	2,730	10,616	15,738
46. KINGFISHES	183		463	656
47. ATLANTIC CROAKER	383	698	11,906	12,988
48. BLACK DRUM	–	–	–	34
49. RED DRUM	–	–	33	57
50. DRUMS	*	–		36
51. MULLETS	–	–	36	46
52. BARRACUDAS	*	*	–	–
53. TAUTOG	471	2,495	2,029	4,996
54. CUNNER	141	515	727	1,383
55. LITTLE TUNNY/ATL.BONITO	*		47	54
56. ATLANTIC MACKEREL	–	2,732	1,900	4,642
57. KING MACKEREL	*	–	–	–
58. SPANISH MACKEREL	*			
59. TUNAS/MACKERELS	*	66	468	534
60. SUMMER FLOUNDER	1,197	2,916	14,281	18,394
62. SOUTHERN FLOUNDER	*	*		
63. WINTER FLOUNDER	546	856	3,614	5,016
64. FLOUNDERS	346	–	463	828
65. TRIGGERFISHES/FILEFISHES	*	–	37	60
66. PUFFERS	62		317	391
67. OTHER FISHES	1,098	608	1,225	2,930
TOTALS	19,067	41,906	102,697	163,670

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

TABLE 24. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING
SOUTH ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
		THOUSANDS		
01. SHARKS	106	-	319	452
02. SHARKS, DOGFISH	162	*		179
03. SKATES/RAYS	241	-	65	306
04. EELS	-	*	-	-
05. HERRINGS	4,970	*	98	5,068
06. FRESHWATER CATFISHES	45	*	49	94
07. SALTWATER CATFISHES	1,555	-	1,474	3,033
08. TOADFISHES	213	-	344	559
13. SEAROBINS	46	*		75
15. WHITE PERCH	*	*	144	144
16. STRIPED BASS	*	*		
17. BLACK SEA BASS	212	188	1,276	1,677
18. GROUPERS	50	-	103	156
19. SEA BASSES		*	125	138
20. BLUEFISH	1,895	84	1,122	3,101
21. JACK CREVALLE	1,928	-	636	2,566
22. BLUE RUNNER	2,481	-	181	2,671
23. GREATER AMBERJACK		46	73	123
24. FLORIDA POMPANO	1,803	-		1,830
25. JACKS	710	-	34	747
26. DOLPHINS	*	127	475	603
27. GRAY SNAPPER	161	-	363	529
28. RED SNAPPER	*	153	58	210
29. LANE SNAPPER	-	*	-	45
30. VERMILION SNAPPER	*	-	55	56
31. YELLOWTAIL SNAPPER	116	*	162	278
32. SNAPPERS	32	-	101	134
33. PIGFISH	163	*	175	338
34. WHITE GRUNT	173	*	525	698
35. GRUNTS	576	-	459	1,036
37. PINFISH	1,912	-	634	2,547
38. SHEEPSHEAD	87	-	751	839

TABLE 24. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING SOUTH ATLANTIC SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
	THOUSANDS			
39. RED PORGY	*	_	129	134
40. PORGIES	423	*	1,518	1,958
41. SPOTTED SEATROUT	841	_	362	1,204
42. WEAKFISH				
44. SILVER PERCH	82	_	68	154
45. SPOT	4,826	_	934	5,761
46. KINGFISHES	2,925	_	344	3,271
47. ATLANTIC CROAKER	5,129	_	956	6,088
48. BLACK DRUM	225	_	177	403
49. RED DRUM	63	_	482	553
50. DRUMS	236	*		237
51. MULLETS	1,257	*	455	1,713
52. BARRACUDAS	37	_	186	253
53. TAUTOG	*	*		
55. LITTLE TUNNY/ATL.BONITO	46	248	361	655
57. KING MACKEREL	42	78	472	592
58. SPANISH MACKEREL	560	64	442	1,066
59. TUNAS/MACKERELS		30	102	150
60. SUMMER FLOUNDER	1,123	_	354	1,484
62. SOUTHERN FLOUNDER	132	_	304	441
65. TRIGGERFISHES/FILEFISHES	46	_	91	158
66. PUFFERS	306	_	70	378
67. OTHER FISHES	1,388	_	686	2,100
TOTALS	39,398	1,210	18,438	59,047

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

TABLE 25. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING
GULF SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
		THOUSANDS		
01. SHARKS	-	-	665	695
02. SHARKS, DOGFISH	-	-	-	-
03. SKATES/RAYS	191	-	205	404
04. EELS	-	-	44	54
05. HERRINGS	1,712	-	2,435	4,148
06. FRESHWATER CATFISHES	522	+	416	938
07. SALTWATER CATFISHES	2,151	101	13,078	15,331
08. TOADFISHES	123	-	59	200
13. SEAROBINS	-	*	40	41
16. STRIPED BASS	+	*	-	-
17. BLACK SEA BASS	171	283	1,370	1,824
18. GROUPERS	87	202	1,939	2,227
19. SEA BASSES	70	91	990	1,152
20. BLUEFISH	167	-	356	541
21. JACK CREVALLE	493	-	248	761
22. BLUE RUNNER	419	-	258	687
23. GREATER AMBERJACK	*	165	117	282
24. FLORIDA POMPANO	84	-	169	253
25. JACKS	595	33	1,188	1,815
26. DOLPHINS	-	84	507	614
27. GRAY SNAPPER	745	76	740	1,561
28. RED SNAPPER	-	348	295	645
29. LANE SNAPPER	-	-	159	174
30. VERMILION SNAPPER	*	190	113	303
31. YELLOWTAIL SNAPPER	38	-	235	302
32. SNAPPERS	82	-	105	199
33. PIGFISH	590	-	417	1,011
34. WHITE GRUNT	373	145	474	992
35. GRUNTS	392	145	1,742	2,279
37. PINFISH	4,265	130	2,930	7,325
38. SHEEPSHEAD	912	-	934	1,852
39. RED PORGY	*	87	169	255

TABLE 25. ESTIMATED TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND MODE OF FISHING
GULF SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
		THOUSANDS		
40. PORGIES	*		83	88
41. SPOTTED SEATROUT	1,433	395	19,627	21,455
43. SAND SEATROUT	562	199	5,644	6,404
44. SILVER PERCH	220	*	78	298
45. SPOT		*	131	142
46. KINGFISHES	3,055	_	1,034	4,102
47. ATLANTIC CROAKER	2,949	_	11,949	14,912
48. BLACK DRUM	396	_	1,032	1,430
49. RED DRUM	491	32	2,990	3,513
50. DRUMS	378	_	894	1,281
51. MULLETS	2,761	*	1,821	4,582
52. BARRACUDAS	_	_	192	221
55. LITTLE TUNNY/ATL.BONITO	105	102	316	523
57. KING MACKEREL			105	147
58. SPANISH MACKEREL	4,045	264	3,604	7,914
59. TUNAS/MACKERELS	40	85	84	209
61. GULF FLOUNDER	302	_	199	502
62. SOUTHERN FLOUNDER	126	_	2,440	2,568
64. FLOUNDERS	206	_	1,331	1,539
65. TRIGGERFISHES/FILEFISHES	*	121	110	231
66. PUFFERS	134	_	90	227
67. OTHER FISHES	3,398	131	7,134	10,663
TOTALS	34,890	3,655	93,319	131,865

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES LESS THAN THIRTY THOUSAND REPORTED HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

TABLE 26. ESTIMATED WEIGHT OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
			THOUSAND KILOGRAMS		
01. SHARKS	*	2,943	692	608	4,243
02. SHARKS, DOGFISH	-	249	-	*	262
03. SKATES/RAYS	-	-	-	-	-
04. EELS	-	50	-	-	54
05. HERRINGS	98	239	33		370
06. FRESHWATER CATFISHES	*	263	9	105	377
07. SALTWATER CATFISHES	*	-	100	182	282
08. TOADFISHES	*	-	-	-	10
09. ATLANTIC COD	357	156	*	*	514
10. ATLANTIC TOMCOD		-	*	*	
11. POLLOCK	44		*	*	46
12. SILVER HAKE	*	132	*	*	132
13. SEAROBINS		31			36
14. SCULPINS	-		-	-	
15. WHITE PERCH	*	292	*	*	306
16. STRIPED BASS	-	475	14	-	662
17. BLACK SEA BASS	304	3,996	163	197	4,661
18. GROUPERS	*	*	90	1,147	1,238
19. SEA BASSES	*		2	34	39
20. BLUEFISH	11,764	14,564	1,416	96	27,840
21. JACK CREVALLE	*	*	67	179	246
22. BLUE RUNNER	*	*	148		156
23. GREATER AMBERJACK	*	-	627	574	1,441
24. FLORIDA POMPANO	*	-	128	35	165
25. JACKS	*	24	39	31	94
26. DOLPHINS	*	112	1,616	327	2,055
27. GRAY SNAPPER	*	*	49	202	251
28. RED SNAPPER	*	*	51	421	472
29. LANE SNAPPER	*	*		37	37
30. VERMILION SNAPPER	*	*	5	69	75
31. YELLOWTAIL SNAPPER	*	*	26	74	100
32. SNAPPERS	*	*	50	-	90
33. PIGFISH	*	7	10	14	31
34. WHITE GRUNT	*	*	17	87	104
35. GRUNTS	*		18	123	141
36. SCUP	3,315	1,678	*	*	4,993
37. PINFISH	*	*	72	68	140
38. SHEEPSHEAD	*		574	497	1,071
39. RED PORGY	*	*		39	45
40. PORGIES	*	-	68	-	73

TABLE 26. ESTIMATED WEIGHT OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION
JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC	MID-ATLANTIC	SOUTH ATLANTIC	GULF	ALL REGIONS
	THOUSAND KILOGRAMS				
41. SPOTTED SEATROUT	*	44	758	6,002	6,804
42. WEAKFISH	_	3,759	199	*	4,003
43. SAND SEATROUT	*	*	*	578	578
44. SILVER PERCH	*	_	_	9	11
45. SPOT	*	1,134	256	14	1,404
46. KINGFISHES	*	156	326	742	1,224
47. ATLANTIC CROAKER	*	1,411	1,198	220	2,829
48. BLACK DRUM	*	_	174	816	1,339
49. RED DRUM	*	358	348	1,853	2,559
50. DRUMS	*	_	20	147	171
51. MULLETS	*	_	103	863	968
52. BARRACUDAS	*	_	249	114	372
53. TAUTOG	4,351	1,831	_	*	6,183
54. CUNNER	_	32	*	*	34
55. LITTLE TUNNY/ATL.BONITO	102	113	505	240	960
56. ATLANTIC MACKEREL	110	2,514	*	*	2,624
57. KING MACKEREL	*	_	2,268	208	2,532
58. SPANISH MACKEREL	*	_	413	1,169	1,585
59. TUNAS/MACKERELS	_	2,950	1,098	672	6,724
60. SUMMER FLOUNDER	1,276	3,767	595	*	5,638
61. GULF FLOUNDER	*	*	*	103	103
62. SOUTHERN FLOUNDER	*	_	176	261	438
63. WINTER FLOUNDER	1,084	1,077	*	*	2,161
64. FLOUNDERS	_	36	*	_	58
65. TRIGGERFISHES/FILEFISHES	_	24	26	53	105
66. PUFFERS	_	29	15	*	44
67. OTHER FISHES	_	369	2,092	981	3,451
TOTALS	25,076	45,494	16,921	20,306	107,797

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: A ZERO (0) INDICATES LESS THAN THIRTY THOUSAND.

NOTE: AN UNDERSCORE (_) MATCHES AN UNDERSCORE IN TABLE 2. HOWEVER, THE WEIGHT HAS BEEN INCLUDED IN ROW AND COLUMN TOTALS.

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

TABLE 27. ESTIMATED WEIGHT OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SUBREGION AND AREA OF FISHING
JAN 1986--DEC 1986

SUBREGION	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSAND KILOGRAMS						
NORTH ATLANTIC	10,298	7,879	*	*	6,898	*	25,076
MID ATLANTIC	9,964	18,645	*	*	14,203	2,683	45,494
SOUTH ATLANTIC	4,116	7,673	*	*	5,132	*	16,921
GULF	7,938	2,352	1,459	2,844	5,713	*	20,306
TOTALS	32,316	36,549	1,459	2,844	31,947	2,683	107,797

1. THIS CATEGORY INCLUDES "MISSING DATA" ON AREA, AND LOCAL VARIATION IN MARINE GEOGRAPHIC TERMINOLOGY WHICH SOMETIMES PREVENTED INTERVIEWERS FROM DETERMINING ACCEPTABLE ANSWERS TO QUESTIONS ON "DISTANCE FROM SHORE."

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

TABLE 28. ESTIMATED WEIGHT OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SUBREGION AND MODE OF FISHING
JAN 1986--DEC 1986

SUBREGION	SHORE	PARTY/CHARTER	PRIVATE/RENTAL	ALL MODES
	THOUSAND KILOGRAMS			
NORTH ATLANTIC	1,839	5,401	17,836	25,076
MID ATLANTIC	3,144	12,953	29,398	45,494
SOUTH ATLANTIC	4,294	2,647	9,980	16,921
GULF	3,640	2,527	14,140	20,306
TOTALS	12,916	23,527	71,354	107,797

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

TABLE 29. ESTIMATED WEIGHT OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY AREA OF FISHING AND MODE OF FISHING FOR EACH SUBREGION, JAN 1986--DEC 1986

MODE	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
	THOUSAND KILOGRAMS						
NORTH ATLANTIC							
SHORE	1,012	*	*	*	827	*	1,839
PARTY/CHARTER	2,154	2,870	*	*	377	*	5,401
PRIVATE/RENTAL	7,133	5,009	*	*	5,695	*	17,836
TOTALS	10,298	7,879	0	0	6,898	0	25,076
MID ATLANTIC							
SHORE	1,086	*	*	*	1,974	84	3,144
PARTY/CHARTER	3,399	6,841	*	*	2,283	430	12,953
PRIVATE/RENTAL	5,479	11,804	*	*	9,946	2,169	29,398
TOTALS	9,964	18,645	0	0	14,203	2,683	45,494
SOUTH ATLANTIC							
SHORE	1,907	*	*	*	2,387	*	4,294
PARTY/CHARTER	476	2,165	*	*	6	*	2,647
PRIVATE/RENTAL	1,734	5,508	*	*	2,739	*	9,980
TOTALS	4,116	7,673	0	0	5,132	0	16,921
GULF							
SHORE	2,051	*	*	*	1,589	*	3,640
PARTY/CHARTER	222	958	481	794	72	*	2,527
PRIVATE/RENTAL	5,665	1,395	977	2,051	4,052	*	14,140
TOTALS	7,938	2,352	1,459	2,844	5,713	0	20,306
GRAND TOTALS	32,316	36,549	1,459	2,844	31,947	2,683	107,797

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

TABLE 30. ESTIMATED WEIGHT OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY WAVE AND SUBREGION
JAN 1986--DEC 1986

WAVE	SUBREGION	WEIGHT
		THOUSAND KILOGRAMS
JAN/FEB		
	SOUTH ATLANTIC	687
	GULF	1,823
	TOTAL	2,510
MAR/APR		
	NORTH ATLANTIC	483
	MID ATLANTIC	2,566
	SOUTH ATLANTIC	2,342
	GULF	2,226
	TOTAL	7,617
MAY/JUN		
	NORTH ATLANTIC	4,397
	MID ATLANTIC	12,307
	SOUTH ATLANTIC	4,782
	GULF	3,786
	TOTAL	25,272
JUL/AUG		
	NORTH ATLANTIC	8,503
	MID ATLANTIC	13,196
	SOUTH ATLANTIC	4,986
	GULF	3,636
	TOTAL	30,322
SEP/OCT		
	NORTH ATLANTIC	11,279
	MID ATLANTIC	13,481
	SOUTH ATLANTIC	2,065
	GULF	3,772
	TOTAL	30,596
NOV/DEC		
	NORTH ATLANTIC	414
	MID ATLANTIC	3,944
	SOUTH ATLANTIC	2,059
	GULF	5,063
	TOTAL	11,480
	GRAND TOTAL	107,797

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

TABLE 31. ESTIMATED NUMBER OF PARTICIPANTS IN MARINE RECREATIONAL FISHING BY STATE AND SUBREGION FOR THE ATLANTIC AND GULF COASTS
JAN 1986--DEC 1986

SUBREGION	STATE	COASTAL PARTICIPANTS	NON-COASTAL PARTICIPANTS	OUT OF STATE (1)	TOTAL PARTICIPANTS IN STATE (1)
		THOUSANDS			
NORTH ATLANTIC					
	CONNECTICUT	301	*	110	410
	STD ERR	229	*	54	235
	MAINE	94	4	128	227
	STD ERR	86	5	68	110
	MASSACHUSETTS	539	128	434	1,101
	STD ERR	432	84	281	522
	NEW HAMPSHIRE	67	11	65	143
	STD ERR	42	8	36	56
	RHODE ISLAND	145	*	273	417
	STD ERR	110	*	157	192
	TOTALS	1,146	143		
	STD ERRS	510	84		
MID ATLANTIC					
	DELAWARE	57	*	149	206
	STD ERR	40	*	87	95
	MARYLAND	620	33	497	1,150
	STD ERR	449	19	274	526
	NEW JERSEY	515	19	652	1,186
	STD ERR	515	6	438	676
	NEW YORK	622	28	79	727
	STD ERR	493	22	44	496
	VIRGINIA	576	79	357	1,011
	STD ERR	437	52	187	478
	TOTALS	2,389	159		
	STD ERRS	950	60		

TABLE 31. ESTIMATED NUMBER OF PARTICIPANTS IN MARINE RECREATIONAL FISHING BY STATE AND SUBREGION FOR THE ATLANTIC AND GULF COASTS
JAN 1986--DEC 1986

SUBREGION	STATE	COASTAL PARTICIPANTS	NON-COASTAL PARTICIPANTS	OUT OF STATE (1)	TOTAL PARTICIPANTS IN STATE (1)
		----------THOUSANDS----------			
SOUTH ATLANTIC					
	FLORIDA	1,134	5	1,008	2,148
	STD ERR	797	7	390	887
	GEORGIA	62	34	26	122
	STD ERR	36	14	11	41
	NORTH CAROLINA	139	113	408	660
	STD ERR	126	58	211	253
	SOUTH CAROLINA	120	50	204	373
	STD ERR	82	28	93	127
	TOTALS	1,455	201		
	STD ERRS	812	66		
GULF					
	ALABAMA	68	55	103	226
	STD ERR	46	24	44	68
	FLORIDA	1,281	2	1,867	3,151
	STD ERR	1,013	0	696	1,229
	LOUISIANA	650	22	88	759
	STD ERR	370	21	66	376
	MISSISSIPPI	81	49	133	263
	STD ERR	60	42	119	140
	TOTALS	2,080	128		
	STD ERRS	1,081	52		
	GRAND TOTALS	7,070	631		
	STD ERRS	1,729	133		

NOTE: A ZERO (0) INDICATES LESS THAN THIRTY THOUSAND.

NOTE: AN ASTERISK (*) DENOTES NO PARTICIPANTS FROM THIS AREA.

1. NOT ADDITIVE ACROSS STATES. ONE PERSON CAN BE COUNTED AS "OUT OF STATE" FOR MORE THAN ONE STATE.

TABLE 32. ESTIMATED NUMBER OF FISHING TRIPS BY MARINE RECREATIONAL FISHERMEN BY STATE AND SUBREGION, JAN 1986--DEC 1986

SUBREGION	STATE	TRIPS BY COASTAL RESIDENTS	TRIPS BY NON-COASTAL RESIDENTS	TRIPS BY OUT OF STATE RESIDENTS	ALL TRIPS
		THOUSANDS			
NORTH ATLANTIC					
	CONNECTICUT	1,461	*	175	1,636
	STD ERR	155	*	80	174
	MAINE	336	9	190	535
	STD ERR	69	15	78	106
	MASSACHUSETTS	2,583	375	1,213	4,171
	STD ERR	265	154	318	442
	NEW HAMPSHIRE	149	24	116	288
	STD ERR	32	19	48	60
	RHODE ISLAND	895	*	806	1,702
	STD ERR	136	*	312	340
	TOTALS	5,425	408	2,500	8,333
	STD ERRS	344	156	462	597
MID ATLANTIC					
	DELAWARE	525	*	629	1,154
	STD ERR	138	*	283	315
	MARYLAND	2,698	101	1,134	3,933
	STD ERR	395	91	444	601
	NEW JERSEY	5,009	129	2,451	7,590
	STD ERR	509	121	597	793
	NEW YORK	4,030	63	231	4,325
	STD ERR	377	63	136	406
	VIRGINIA	2,573	183	803	3,559
	STD ERR	320	125	284	446
	TOTALS	14,835	478	5,248	20,561
	STD ERRS	824	206	856	1,206

TABLE 32. ESTIMATED NUMBER OF FISHING TRIPS BY MARINE RECREATIONAL FISHERMEN BY STATE AND SUBREGION, JAN 1986--DEC 1986

SUBREGION	STATE	TRIPS BY COASTAL RESIDENTS	TRIPS BY NON-COASTAL RESIDENTS	TRIPS BY OUT OF STATE RESIDENTS	ALL TRIPS
		THOUSANDS			
SOUTH ATLANTIC					
	FLORIDA	8,247	19	2,032	10,298
	STD ERR	595	44	520	792
	GEORGIA	422	82	50	554
	STD ERR	42	28	22	55
	NORTH CAROLINA	1,218	464	973	2,655
	STD ERR	140	144	276	342
	SOUTH CAROLINA	800	151	325	1,276
	STD ERR	131	81	129	200
	TOTALS	10,688	716	3,380	14,783
	STD ERRS	627	173	603	887
GULF					
	ALABAMA	397	112	166	675
	STD ERR	59	51	76	109
	FLORIDA	9,335	22	4,079	13,436
	STD ERR	694	36	813	1,070
	LOUISIANA	2,925	49	140	3,114
	STD ERR	400	70	127	425
	MISSISSIPPI	425	65	182	672
	STD ERR	54	49	163	178
	TOTALS	13,082	248	4,566	17,897
	STD ERRS	805	106	842	1,170
	GRAND TOTALS	44,031	1,849	15,694	61,574
	STD ERRS	1,356	329	1,421	1,991

NOTE: A ZERO (0) INDICATES LESS THAN THIRTY THOUSAND.

NOTE: AN ASTERISK (*) DENOTES NO ESTIMATED TRIPS FROM THIS AREA.

TABLE 33. ESTIMATED NUMBER OF FISHING TRIPS BY MARINE RECREATIONAL FISHERMEN BY MODE AND SUBREGION, JAN 1986--DEC 1986

SUBREGION	MODE	TRIPS BY COASTAL RESIDENTS	TRIPS BY NON-COASTAL RESIDENTS	TRIPS BY OUT OF STATE RESIDENTS	ALL TRIPS
		THOUSANDS			
NORTH ATLANTIC					
	SHORE	1,832	147	879	2,858
	STD ERR	171	93	250	317
	PARTY/CHARTER	431	56	590	1,078
	STD ERR	84	37	255	271
	PRIVATE/RENTAL	3,162	204	1,031	4,397
	STD ERR	287	120	293	427
	TOTALS	5,426	408	2,500	8,333
	STD ERRS	344	156	462	597
MID ATLANTIC					
	SHORE	4,769	114	1,779	6,662
	STD ERR	493	93	550	745
	PARTY/CHARTER	1,763	76	966	2,805
	STD ERR	197	57	286	351
	PRIVATE/RENTAL	8,304	288	2,503	11,094
	STD ERR	630	175	590	881
	TOTALS	14,835	478	5,248	20,561
	STD ERRS	824	206	856	1,206
SOUTH ATLANTIC					
	SHORE	5,368	436	1,916	7,720
	STD ERR	437	146	398	609
	PARTY/CHARTER	451	13	700	1,164
	STD ERR	166	22	390	425
	PRIVATE/RENTAL	4,868	266	764	5,899
	STD ERR	417	91	230	485
	TOTALS	10,688	716	3,380	14,783
	STD ERRS	627	173	603	887
GULF					
	SHORE	6,725	79	2,727	9,531
	STD ERR	621	53	722	954
	PARTY/CHARTER	110	66	247	423
	STD ERR	15	49	165	173
	PRIVATE/RENTAL	6,248	103	1,592	7,943
	STD ERR	511	77	401	655
	TOTALS	13,082	248	4,566	17,897
	STD ERRS	805	106	842	1,170
	GRAND TOTALS	44,031	1,849	15,694	61,574
	STD ERRS	1,356	329	1,421	1,991

TABLE 34. TABULATION OF PRIMARY SPECIES GROUP SOUGHT AS REPORTED BY FISHERMEN IN THE INTERCEPT SURVEY BY REGION.
JAN 1986--DEC 1986

SUBREGION NORTH ATLANTIC

SOUGHT	COUNT	PERCENT
20. BLUEFISH	1464	28.75
NONE	1064	20.90
63. WINTER FLOUNDER	710	13.94
09. ATLANTIC COD	516	10.13
53. TAUTOG	261	5.13
36. SCUP	236	4.63
56. ATLANTIC MACKEREL	193	3.79
60. SUMMER FLOUNDER	180	3.53
67. OTHER FISHES	119	2.34
16. STRIPED BASS	107	2.10
59. TUNAS/MACKERELS	88	1.73
11. POLLOCK	29	0.57
55. LITTLE TUNNY/ATL.BON	21	0.41
64. FLOUNDERS	17	0.33
10. ATLANTIC TOMCOD	12	0.24

SUBREGION MID ATLANTIC

SOUGHT	COUNT	PERCENT
NONE	3832	22.24
60. SUMMER FLOUNDER	2850	16.54
20. BLUEFISH	2467	14.32
63. WINTER FLOUNDER	1530	8.88
42. WEAKFISH	1251	7.26
53. TAUTOG	704	4.09
45. SPOT	547	3.17
17. BLACK SEA BASS	392	2.27
59. TUNAS/MACKERELS	322	1.87
36. SCUP	321	1.86
67. OTHER FISHES	299	1.74
47. ATLANTIC CROAKER	233	1.35
56. ATLANTIC MACKEREL	211	1.22
01. SHARKS	157	0.91
15. WHITE PERCH	138	0.80

SUBREGION SOUTH ATLANTIC

SOUGHT	COUNT	PERCENT
NONE	6268	52.13
41. SPOTTED SEATROUT	951	7.91
26. DOLPHINS	670	5.57
67. OTHER FISHES	640	5.32
57. KING MACKEREL	631	5.25
49. RED DRUM	383	3.19
20. BLUEFISH	318	2.64
59. TUNAS/MACKERELS	211	1.75
38. SHEEPSHEAD	187	1.56
60. SUMMER FLOUNDER	171	1.42
01. SHARKS	147	1.22
62. SOUTHERN FLOUNDER	144	1.20
42. WEAKFISH	128	1.06
46. KINGFISHES	124	1.03
45. SPOT	122	1.01

SUBREGION GULF

SOUGHT	COUNT	PERCENT
NONE	5555	36.09
41. SPOTTED SEATROUT	3519	22.86
49. RED DRUM	1772	11.51
67. OTHER FISHES	546	3.55
58. SPANISH MACKEREL	487	3.16
43. SAND SEATROUT	326	2.12
18. GROUPERS	272	1.77
28. RED SNAPPER	246	1.60
57. KING MACKEREL	234	1.52
19. SEA BASSES	141	0.92
62. SOUTHERN FLOUNDER	138	0.90
51. MULLETS	123	0.80
01. SHARKS	118	0.77
50. DRUMS	116	0.75
38. SHEEPSHEAD	102	0.66

TABLE 35. FREQUENCY DISTRIBUTION OF NUMBER OF FISH CAUGHT PER TRIP
BY SUBREGION FOR EACH MODE OF FISHING, JAN 1986--DEC 1986

MODE OF FISHING (FISHERMAN COLLAPSED)=SHORE

TABLE OF SUB_REG BY TOTAL

SUB_REG SUB REGION OF TRIP TOTAL

FREQUENCY ROW PCT	0	.01-1	1.01-2	2.01-3	3.01-5	5.01-10	10.01-15	15.01-20	20.01-25	OVER 25	TOTAL
NORTH ATLANTIC	754 60.22	155 12.38	95 7.59	46 3.67	50 3.99	84 6.71	36 2.88	9 0.72	9 0.72	14 1.12	1252
MID ATLANTIC	1294 52.14	325 13.09	199 8.02	142 5.72	156 6.29	186 7.49	92 3.71	37 1.49	17 0.68	34 1.37	2482
SOUTH ATLANTIC	1194 49.75	277 11.54	183 7.63	135 5.63	163 6.79	197 8.21	76 3.17	55 2.29	30 1.25	90 3.75	2400
GULF	1020 48.05	269 12.67	168 7.91	124 5.84	172 8.10	198 9.33	75 3.53	39 1.84	20 0.94	38 1.79	2123
TOTAL	4262	1026	645	447	541	665	279	140	76	176	8257

MODE OF FISHING (FISHERMAN COLLAPSED)=PARTY/CHARTER

TABLE OF SUB_REG BY TOTAL

SUB_REG SUB REGION OF TRIP TOTAL

FREQUENCY ROW PCT	0	.01-1	1.01-2	2.01-3	3.01-5	5.01-10	10.01-15	15.01-20	20.01-25	OVER 25	TOTAL
NORTH ATLANTIC	303 19.23	203 12.88	150 9.52	123 7.80	223 14.15	271 17.20	152 9.64	58 3.68	32 2.03	61 3.87	1576
MID ATLANTIC	449 8.59	402 7.69	524 10.03	445 8.52	628 12.02	963 18.43	538 10.29	291 5.57	177 3.39	809 15.48	5226
SOUTH ATLANTIC	662 29.62	368 16.47	365 16.33	229 10.25	267 11.95	256 11.45	43 1.92	17 0.76	12 0.54	16 0.72	2235
GULF	166 5.43	144 4.71	251 8.21	212 6.93	458 14.97	749 24.49	376 12.29	226 7.39	142 4.64	335 10.95	3059
TOTAL	1580	1117	1290	1009	1576	2239	1109	592	363	1221	12096

TABLE 35. FREQUENCY DISTRIBUTION OF NUMBER OF FISH CAUGHT PER TRIP
BY SUBREGION FOR EACH MODE OF FISHING, JAN 1986--DEC 1986

MODE OF FISHING (FISHERMAN COLLAPSED)=PRIVATE/RENTAL

TABLE OF SUB_REG BY TOTAL

SUB_REG SUB REGION OF TRIP TOTAL

FREQUENCY ROW PCT	0	.01-1	1.01-2	2.01-3	3.01-5	5.01-10	10.01-15	15.01-20	20.01-25	OVER 25	TOTAL
NORTH ATLANTIC	796 35.16	196 8.66	174 7.69	132 5.83	218 9.63	279 12.32	173 7.64	64 2.83	67 2.96	165 7.29	2264
MID ATLANTIC	2050 21.53	866 9.09	700 7.35	631 6.63	1000 10.50	1563 16.41	892 9.37	529 5.55	345 3.62	947 9.94	9523
SOUTH ATLANTIC	3152 42.66	894 12.10	659 8.92	530 7.17	636 8.61	800 10.83	290 3.92	164 2.22	96 1.30	168 2.27	7389
GULF	1769 17.34	734 7.20	885 8.68	743 7.28	1165 11.42	1811 17.75	1040 10.20	629 6.17	382 3.74	1043 10.22	10201
TOTAL	7767	2690	2418	2036	3019	4453	2395	1386	890	2323	29377

TABLE 36. AVERAGE NUMBER OF FISH CAUGHT PER TRIP BY SUBREGION FOR EACH MODE OF FISHING, JAN 1986--DEC 1986

SUBREGION	MEAN CATCH
NORTH ATLANTIC	
SHORE	2.3
PARTY/CHARTER	7.0
PRIVATE/RENTAL	8.1
MID ATLANTIC	
SHORE	2.9
PARTY/CHARTER	13.6
PRIVATE/RENTAL	10.1
SOUTH ATLANTIC	
SHORE	4.3
PARTY/CHARTER	3.2
PRIVATE/RENTAL	3.8
GULF	
SHORE	4.0
PARTY/CHARTER	10.7
PRIVATE/RENTAL	14.5

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

TABLE 37. ESTIMATES FROM INTERCEPT SURVEY DATA: AVERAGE NUMBER OF HOURS, AND AVERAGE ONE-WAY DISTANCE TRAVELED BY SUBREGION AND MODE, JAN 1986--DEC 1986

MODE	SUBREGION	MEAN	MEDIAN	STD DEV
SHORE				
	NORTH ATLANTIC			
	HOURS	2.9	2.5	2.176
	MILES	110.9	24.0	293.01
	MID ATLANTIC			
	HOURS	3.5	3.0	2.215
	MILES	72.6	25.0	167.96
	SOUTH ATLANTIC			
	HOURS	3.5	3.0	2.021
	MILES	145.1	27.0	292.24
	GULF			
	HOURS	2.6	2.0	1.931
	MILES	216.4	20.0	625.39
PARTY/CHARTER				
	NORTH ATLANTIC			
	HOURS	4.4	4.5	1.793
	MILES	192.8	75.0	444.05
	MID ATLANTIC			
	HOURS	5.2	5.0	2.063
	MILES	115.3	60.0	284.77
	SOUTH ATLANTIC			
	HOURS	4.5	4.0	1.837
	MILES	468.7	300	587.46
	GULF			
	HOURS	5.3	5.0	2.150
	MILES	348.7	175	486.61
PRIVATE/RENTAL				
	NORTH ATLANTIC			
	HOURS	4.5	4.0	2.309
	MILES	65.7	25.0	154.28
	MID ATLANTIC			
	HOURS	4.5	4.0	2.056
	MILES	77.2	32.0	178.18
	SOUTH ATLANTIC			
	HOURS	4.4	4.0	1.841
	MILES	100.5	15.0	276.24
	GULF			
	HOURS	4.2	4.0	2.082
	MILES	88.6	30.0	255.02

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

TABLE 38. ESTIMATES FROM INTERCEPT SURVEY DATA: AVERAGE NUMBER OF HOURS, AND AVERAGE ONE-WAY DISTANCE TRAVELED BY MODE, JAN 1986--DEC 1986

MODE		MEAN	MEDIAN	STD DEV
SHORE				
	HOURS	3.2	3.0	2.118
	MILES	134.2	25.0	377.94
PARTY/CHARTER				
	HOURS	5.0	5.0	2.044
	MILES	245.8	100	450.89
PRIVATE/RENTAL				
	HOURS	4.4	4.0	2.038
	MILES	86.3	26.0	232.81

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

TABLE 39. ESTIMATES FROM INTERCEPT SURVEY DATA: AVERAGE NUMBER OF HOURS, AND AVERAGE ONE-WAY DISTANCE TRAVELED BY SUBREGION, JAN 1986--DEC 1986

SUBREGION		MEAN	MEDIAN	STD DEV
NORTH ATLANTIC				
	HOURS	4.1	4.0	2.224
	MILES	115.8	45.0	308.51
MID ATLANTIC				
	HOURS	4.6	4.0	2.150
	MILES	87.6	40.0	214.41
SOUTH ATLANTIC				
	HOURS	4.2	4.0	1.912
	MILES	173.9	25.0	379.34
GULF				
	HOURS	4.2	4.0	2.211
	MILES	150.2	37.0	387.35

NOTE: TEXAS DATA ARE NOT INCLUDED IN THIS TABLE, AS WELL AS GULF SUBREGIONS TABLES.

TABLE 40. NUMBER OF INTERCEPT SURVEY INTERVIEWS CONDUCTED FROM JAN 1986--DEC 1986 BY AREA OF FISHING AND MODE OF FISHING FOR EACH SUBREGION

MODE	OCEAN 3 MI OR LESS	OCEAN MORE THAN 3 MI	OCEAN 3-10 MI	OCEAN OVER 10 MI	INLAND	UNDEFINED (1)	ALL AREAS
NORTH ATLANTIC							
SHORE	500	*	*	*	748	*	1,248
PARTY/CHARTER	290	1,086	*	*	187	*	1,563
PRIVATE/RENTAL	1,177	284	*	*	779	*	2,240
TOTALS	1,967	1,370	0	0	1,714	0	5,051
MID ATLANTIC							
SHORE	660	*	*	*	1,509	266	2,435
PARTY/CHARTER	813	1,588	*	*	1,663	571	4,635
PRIVATE/RENTAL	1,148	1,245	*	*	5,080	1,220	8,693
TOTALS	2,621	2,833	0	0	8,252	2,057	15,763
SOUTH ATLANTIC							
SHORE	928	*	*	*	1,453	*	2,381
PARTY/CHARTER	215	1,486	*	*	406	*	2,107
PRIVATE/RENTAL	822	1,354	*	*	5,176	*	7,352
TOTALS	1,965	2,840	0	0	7,035	0	11,840
GULF							
SHORE	849	*	*	*	1,245	*	2,094
PARTY/CHARTER	630	1,018	180	580	171	*	2,579
PRIVATE/RENTAL	4,651	593	506	318	3,524	*	9,592
TOTALS	6,130	1,611	686	898	4,940	0	14,265
GRAND TOTALS	12,683	8,654	686	898	21,941	2,057	46,919

NOTE: SHORE MODE INCLUDES MAN-MADE AND BEACH/BANK SITES FROM PREVIOUS SURVEYS.

NOTE: PARTY/CHARTER MODE INCLUDES ONLY CHARTER BOAT IN THE SOUTH ATLANTIC AND GULF SUBREGIONS.

NOTE: "OCEAN 3-10 MI" AND "OCEAN OVER 10 MI" REFER ONLY TO TEXAS AND FLORIDA GULF COASTS WHERE STATE JURIDICTION EXTENDS TO THREE MARINE LEAGUES, APPROXIMATELY TEN NAUTICAL MILES. THE TOTAL OCEAN ESTIMATE IS ADDITIVE ACROSS THE FOUR AREAS.

NOTE: AN ASTERISK (*) DENOTES NO INTERVIEWS CONDUCTED.

NOTE: TEXAS DATA ARE NOT INCLUDED IN THIS TABLE, AS WELL AS GULF SUBREGIONS TABLES.

TABLE 41. TABULATION OF LOCATION OF RESIDENCE OF FISHERMEN
INTERCEPTED BY STATE OF INTERCEPT SURVEY INTERVIEW
JAN 1986--DEC 1986

STATE	COASTAL AREA	REST OF STATE	OUT OF STATE	TOTALS
	PERCENT			
ALABAMA	61.0	16.6	22.4	1191
CONNECTICUT	85.2	0.0	14.8	969
DELAWARE	41.7	0.0	58.3	885
FLORIDA	76.7	0.6	22.6	10324
GEORGIA	71.1	17.0	11.9	2989
LOUISIANA	90.9	2.1	7.0	6121
MAINE	58.2	1.6	40.2	879
MARYLAND	66.8	3.6	29.6	2253
MASSACHUSETTS	64.9	9.0	26.1	1927
MISSISSIPPI	62.9	12.7	24.4	1536
NEW HAMPSHIRE	43.0	7.6	49.4	542
NEW JERSEY	68.4	1.5	30.1	2026
NEW YORK	92.2	1.6	6.1	5233
NORTH CAROLINA	43.6	19.9	36.6	2473
RHODE ISLAND	51.6	0.0	48.4	734
SOUTH CAROLINA	51.5	10.2	38.3	1471
VIRGINIA	70.3	6.1	23.6	5366
TOTALS	34197	2491	10231	46919

NOTE: TEXAS DATA ARE NOT INCLUDED IN THIS TABLE, AS WELL AS GULF SUBREGIONS TABLES.

TABLE 42. TABULATION OF STATE OF RESIDENCE OF INTERCEPTED FISHERMEN
BY STATE OF INTERCEPTED INTERVIEW, JAN 1986--DEC 1986

STATE OF INTERCEPTED INTERVIEW

STATE RESIDENCE	AL	CT	DE	FL	GA	LA	ME	MD	MA	MS	NH	NJ	NY	NC	RI	SC	TX	VA	TOTAL
ALABAMA	924		2	286	17	23				49				2		9		1	1313
ROW PERCENT	70.4		0.2	21.8	1.3	1.8				3.7				0.2		0.7		0.1	
COL PERCENT	77.6		0.2	2.8	0.6	0.4				3.2				0.1		0.6		0.0	
ALASKA	1			2		2	1			2			1						9
ROW PERCENT	11.1			22.2		22.2	11.1			22.2			11.1						
COL PERCENT	0.1			0.0		0.0	0.1			0.1			0.0						
ARIZONA	4			2	1	4	3	1					2	2				1	20
ROW PERCENT	20.0			10.0	5.0	20.0	15.0	5.0					10.0	10.0				5.0	
COL PERCENT	0.3			0.0	0.0	0.1	0.3	0.0					0.0	0.1				0.0	
ARKANSAS	3			8	9	29				10	1							2	62
ROW PERCENT	4.8			12.9	14.5	46.8				16.1	1.6							3.2	
COL PERCENT	0.3			0.1	0.3	0.5				0.7	0.2							0.0	
CALIFORNIA	9		1	18	8	7			5	2			6	1	1	3		11	72
ROW PERCENT	12.5		1.4	25.0	11.1	9.7			6.9	2.8			8.3	1.4	1.4	4.2		15.3	
COL PERCENT	0.8		0.1	0.2	0.3	0.1			0.3	0.1			0.1	0.0	0.1	0.2		0.2	
COLORADO				14	1	1		2	2	1		1	2		1	9		3	37
ROW PERCENT				37.8	2.7	2.7		5.4	5.4	2.7		2.7	5.4		2.7	24.3		8.1	
COL PERCENT				0.1	0.0	0.0		0.1	0.1	0.1		0.0	0.0		0.1	0.6		0.1	
CONNECTICUT	3	826	1	15	4		13	3	99	1	11	2	57	2	194	2		6	1239
ROW PERCENT	0.2	66.7	0.1	1.2	0.3		1.0	0.2	8.0	0.1	0.9	0.2	4.6	0.2	15.7	0.2		0.5	
COL PERCENT	0.3	85.2	0.1	0.1	0.1		1.5	0.1	5.1	0.1	2.0	0.1	1.1	0.1	26.4	0.1		0.1	
DELAWARE			369	11	2			46	2			8	2	4				52	496
ROW PERCENT			74.4	2.2	0.4			9.3	0.4			1.6	0.4	0.8				10.5	
COL PERCENT			41.7	0.1	0.1			2.0	0.1			0.4	0.0	0.2				1.0	
DISTRICT OF COLUMBIA	3	3	1	1			1	103	4							1		19	136
ROW PERCENT	2.2	2.2	0.7	0.7			0.7	75.7	2.9							0.7		14.0	
COL PERCENT	0.3	0.3	0.1	0.0			0.1	4.6	0.2							0.1		0.4	
FLORIDA	27			7986	62	14	2	9	13	6	3	6	17	8	2	27		31	8213
ROW PERCENT	0.3			97.2	0.8	0.2	0.0	0.1	0.2	0.1	0.0	0.1	0.2	0.1	0.0	0.3		0.4	
COL PERCENT	2.3			77.4	2.1	0.2	0.2	0.4	0.7	0.4	0.6	0.3	0.3	0.3	0.3	1.8		0.6	
GEORGIA	26			654	2632	11	1	1		7			3	12		137		10	3494
ROW PERCENT	0.7			18.7	75.3	0.3	0.0	0.0		0.2			0.1	0.3		3.9		0.3	
COL PERCENT	2.2			6.3	88.1	0.2	0.1	0.0		0.5			0.1	0.5		9.3		0.2	
HAWAII	2																	1	3
ROW PERCENT	66.7																	33.3	
COL PERCENT	0.2																	0.0	

TABLE 42. TABULATION OF STATE OF RESIDENCE OF INTERCEPTED FISHERMEN
BY STATE OF INTERCEPTED INTERVIEW, JAN 1986--DEC 1986

STATE OF INTERCEPTED INTERVIEW

STATE RESIDENCE	AL	CT	DE	FL	GA	LA	ME	MD	MA	MS	NH	NJ	NY	NC	RI	SC	TX	VA	TOTAL
IDAHO					1		1	1										1	4
ROW PERCENT					25.0		25.0	25.0										25.0	
COL PERCENT					0.0		0.1	0.0										0.0	
ILLINOIS	8			99	15	18	4	4	4	8				6		8		7	181
ROW PERCENT	4.4			54.7	8.3	9.9	2.2	2.2	2.2	4.4				3.3		4.4		3.9	
COL PERCENT	0.7			1.0	0.5	0.3	0.5	0.2	0.2	0.5				0.2		0.5		0.1	
INDIANA	3			61	10		2	1	6	3				6				3	95
ROW PERCENT	3.2			64.2	10.5		2.1	1.1	6.3	3.2				6.3				3.2	
COL PERCENT	0.3			0.6	0.3		0.2	0.0	0.3	0.2				0.2				0.1	
IOWA	1			9	2	5		1		5				1		1		2	27
ROW PERCENT	3.7			33.3	7.4	18.5		3.7		18.5				3.7		3.7		7.4	
COL PERCENT	0.1			0.1	0.1	0.1		0.0		0.3				0.0		0.1		0.0	
KANSAS	2	2		12		2	3		1	1	2					2		3	30
ROW PERCENT	6.7	6.7		40.0		6.7	10.0		3.3	3.3	6.7					6.7		10.0	
COL PERCENT	0.2	0.2		0.1		0.0	0.3		0.1	0.1	0.4					0.1		0.1	
KENTUCKY				46	6	4	3	1		7			1	3		14		7	92
ROW PERCENT				50.0	6.5	4.3	3.3	1.1		7.6			1.1	3.3		15.2		7.6	
COL PERCENT				0.4	0.2	0.1	0.3	0.0		0.5			0.0	0.1		1.0		0.1	
LOUISIANA	36	2		18	8	5692	2	1	1	181		2				2		1	5946
ROW PERCENT	0.6	0.0		0.3	0.1	95.7	0.0	0.0	0.0	3.0		0.0				0.0		0.0	
COL PERCENT	3.0	0.2		0.2	0.3	93.0	0.2	0.0	0.1	11.8		0.1				0.1		0.0	
MAINE		7	1	2		1	526				8				7			2	554
ROW PERCENT		1.3	0.2	0.4		0.2	94.9				1.4				1.3			0.4	
COL PERCENT		0.7	0.1	0.0		0.0	59.8				1.5				1.0			0.0	
MARYLAND	2		114	28	8	1	9	1587	2	2		5	6	67		1		417	2249
ROW PERCENT	0.1		5.1	1.2	0.4	0.0	0.4	70.6	0.1	0.1		0.2	0.3	3.0		0.0		18.5	
COL PERCENT	0.2		12.9	0.3	0.3	0.0	1.0	70.4	0.1	0.1		0.2	0.1	2.7		0.1		7.8	
MASSACHUSETTS		47	1	30	3	5	90	2	1424		183		6	1	103			9	1904
ROW PERCENT		2.5	0.1	1.6	0.2	0.3	4.7	0.1	74.8		9.6		0.3	0.1	5.4			0.5	
COL PERCENT		4.9	0.1	0.3	0.1	0.1	10.2	0.1	73.9		33.8		0.1	0.0	14.0			0.2	
MICHIGAN	25	2		90	8	2	18	2		6		1	1	4		14		17	190
ROW PERCENT	13.2	1.1		47.4	4.2	1.1	9.5	1.1		3.2		0.5	0.5	2.1		7.4		8.9	
COL PERCENT	2.1	0.2		0.9	0.3	0.0	2.0	0.1		0.4		0.0	0.0	0.2		1.0		0.3	
MINNESOTA	1			19	2	10			1	6						4		4	47
ROW PERCENT	2.1			40.4	4.3	21.3			2.1	12.8						8.5		8.5	
COL PERCENT	0.1			0.2	0.1	0.2			0.1	0.4						0.3		0.1	

TABLE 42. TABULATION OF STATE OF RESIDENCE OF INTERCEPTED FISHERMEN
BY STATE OF INTERCEPTED INTERVIEW, JAN 1986--DEC 1986

STATE OF INTERCEPTED INTERVIEW

STATE RESIDENCE	AL	CT	DE	FL	GA	LA	ME	MD	MA	MS	NH	NJ	NY	NC	RI	SC	TX	VA	TOTAL
MISSISSIPPI	27			17	3	138			3	1161						2		2	1353
ROW PERCENT	2.0			1.3	0.2	10.2			0.2	85.8						0.1		0.1	
COL PERCENT	2.3			0.2	0.1	2.3			0.2	75.6						0.1		0.0	
MISSOURI	6			28	4	13	2	2	2	6	1				1	11		8	84
ROW PERCENT	7.1			33.3	4.8	15.5	2.4	2.4	2.4	7.1	1.2				1.2	13.1		9.5	
COL PERCENT	0.5			0.3	0.1	0.2	0.2	0.1	0.1	0.4	0.2				0.1	0.7		0.1	
MONTANA				2		6				1			19	1				1	30
ROW PERCENT				6.7		20.0				3.3			63.3	3 3				3.3	
COL PERCENT				0.0		0.1				0.1			0.4	0.0				0.0	
NEBRASKA	1		1		2			1						3	2	6		1	17
ROW PERCENT	5.9		5.9		11.8			5.9						17.6	11.8	35.3		5.9	
COL PERCENT	0.1		0.1		0.1			0.0						0.1	0.3	0.4		0.0	
NEVADA		1		2					1		1		1						6
ROW PERCENT		16.7		33.3					16.7		16.7		16.7						
COL PERCENT		0.1		0.0					0.1		0.2		0.0						
NEW HAMPSHIRE				9	3	2	60		26		274		1		1				376
ROW PERCENT				2.4	0.8	0.5	16.0		6.9		72.9		0.3		0.3				
COL PERCENT				0.1	0.1	0.0	6.8		1.3		50 6		0 0		0.1				
NEW JERSEY	2	3	3	83	5	1	8	12	62	1	1	1417	139	30	3	20		79	1869
ROW PERCENT	0.1	0.2	0.2	4.4	0.3	0.1	0.4	0.6	3.3	0.1	0.1	75.8	7.4	1.6	0.2	1.1		4.2	
COL PERCENT	0.2	0.3	0.3	0.8	0.2	0.0	0.9	0.5	3.2	0.1	0.2	69.9	2.7	1.2	0.4	1.4		1.5	
NEW MEXICO				3	4		1			1				1				1	11
ROW PERCENT				27.3	36.4		9.1			9.1				9.1				9.1	
COL PERCENT				0.0	0.1		0.1			0.1				0.0				0.0	
NEW YORK	3	61	8	117	14	1	46	9	127	3	16	33	4912	21	33	34		51	5489
ROW PERCENT	0.1	1.1	0 1	2.1	0.3	0.0	0.8	0.2	2.3	0.1	0.3	0.6	89.5	0.4	0.6	0.6		0.9	
COL PERCENT	0.3	6.3	0.9	1.1	0.5	0.0	5.2	0.4	6.6	0.2	3.0	1.6	93.9	0.8	4.5	2.3		1.0	
NORTH CAROLINA	4			28	29			3		3			3	1569		144		117	1900
ROW PERCENT	0.2			1.5	1.5			0.2		0.2			0.2	82.6		7.6		6.2	
COL PERCENT	0.3			0.3	1.0			0.1		0.2			0.1	63.4		9.8		2.2	
NORTH DAKOTA					1								1	1					3
ROW PERCENT					33.3								33.3	33.3					
COL PERCENT					0.0								0.0	0.0					
OHIO	2			146	12	2	10	14	10	4	5	6	2	42		37		39	331
ROW PERCENT	0.6			44.1	3.6	0.6	3.0	4.2	3.0	1.2	1.5	1.8	0.6	12.7		11 2		11.8	
COL PERCENT	0.2			1.4	0.4	0.0	1.1	0.6	0.5	0.3	0.9	0.3	0.0	1 7		2.5		0.7	

TABLE 42. TABULATION OF STATE OF RESIDENCE OF INTERCEPTED FISHERMEN
BY STATE OF INTERCEPTED INTERVIEW, JAN 1986--DEC 1986

STATE OF INTERCEPTED INTERVIEW

STATE RESIDENCE	AL	CT	DE	FL	GA	LA	ME	MD	MA	MS	NH	NJ	NY	NC	RI	SC	TX	VA	TOTAL
OKLAHOMA			1	13	3	7	2	1		8				3		2		3	43
ROW PERCENT			2.3	30.2	7.0	16.3	4.7	2.3		18.6				7.0		4.7		7.0	
COL PERCENT			0.1	0.1	0.1	0.1	0.2	0.0		0.5				0.1		0.1		0.1	
OREGON				3		1	1		1							1			7
ROW PERCENT				42.9		14.3	14.3		14.3							14.3			
COL PERCENT				0.0		0.0	0.1		0.1							0.1			
PENNSYLVANIA		4	361	70	11	4	18	216	26	1	2	538	29	78	5	16		237	1616
ROW PERCENT		0.2	22.3	4.3	0.7	0.2	1.1	13.4	1.6	0.1	0.1	33.3	1.8	4.8	0.3	1.0		14.7	
COL PERCENT		0.4	40.8	0.7	0.4	0.1	2.0	9.6	1.3	0.1	0.4	26.6	0.6	3.2	0.7	1.1		4.4	
RHODE ISLAND		4		3			2		72		7				379	1		3	471
ROW PERCENT		0.8		0.6			0.4		15.3		1.5				80.5	0.2		0.6	
COL PERCENT		0.4		0.0			0.2		3.7		1.3				51.6	0.1		0.1	
SOUTH CAROLINA	3			15	21	2	2	1				1	1	26		908		8	988
ROW PERCENT	0.3			1.5	2.1	0.2	0.2	0.1				0.1	0.1	2.6		91.9		0.8	
COL PERCENT	0.3			0.1	0.7	0.0	0.2	0.0				0.0	0.0	1.1		61.7		0.1	
SOUTH DAKOTA				1														2	3
ROW PERCENT				33.3														66.7	
COL PERCENT				0.0														0.0	
TENNESSEE	29			119	28	22	1	3	2	23		1		7		20		6	261
ROW PERCENT	11.1			45.6	10.7	8.4	0.4	1.1	0.8	8.8		0.4		2.7		7.7		2.3	
COL PERCENT	2.4			1.2	0.9	0.4	0.1	0.1	0.1	1.5		0.0		0.3		1.4		0.1	
TEXAS	18	1		39	25	86	2			16		5	3	2		2		16	215
ROW PERCENT	8.4	0.5		18.1	11.6	40.0	0.9			7.4		2.3	1.4	0.9		0.9		7.4	
COL PERCENT	1.5	0.1		0.4	0.8	1.4	0.2			1.0		0.2	0.1	0.1		0.1		0.3	
UTAH				3				1								3		1	8
ROW PERCENT				37.5				12.5								37.5		12.5	
COL PERCENT				0.0				0.0								0.2		0.0	
VERMONT				2			36		13	3	20			2	2			2	80
ROW PERCENT				2.5			45.0		16.3	3.8	25.0			2.5	2.5			2.5	
COL PERCENT				0.0			4.1		0.7	0.2	3.7			0.1	0.3			0.0	
VIRGINIA	1		17	39	15	1	1	202	2				4	537		20		4102	4941
ROW PERCENT	0.0		0.3	0.8	0.3	0.0	0.0	4.1	0.0				0.1	10.9		0.4		83.0	
COL PERCENT	0.1		1.9	0.4	0.5	0.0	0.1	9.0	0.1				0.1	21.7		1.4		76.4	
WASHINGTON		1		4	1	1			4	2			1					4	18
ROW PERCENT		5.6		22.2	5.6	5.6			22.2	11.1			5.6					22.2	
COL PERCENT		0.1		0.0	0.0	0.0			0.2	0.1			0.0					0.1	

TABLE 42. TABULATION OF STATE OF RESIDENCE OF INTERCEPTED FISHERMEN
BY STATE OF INTERCEPTED INTERVIEW, JAN 1986--DEC 1986

STATE OF INTERCEPTED INTERVIEW

STATE RESIDENCE	AL	CT	DE	FL	GA	LA	ME	MD	MA	MS	NH	NJ	NY	NC	RI	SC	TX	VA	TOTAL
WEST VIRGINIA		4	3	21	4			14	1				1	28		5		48	129
ROW PERCENT		3.1	2.3	16.3	3.1			10.9	0.8				0.8	21.7		3.9		37.2	
COL PERCENT		0.4	0.3	0.2	0.1			0.6	0.1				0.0	1.1		0.3		0.9	
WISCONSIN	12			33	1	1	3	1	3	3				1		2		5	65
ROW PERCENT	18.5			50.8	1.5	1.5	4.6	1.5	4.6	4.6				1.5		3.1		7.7	
COL PERCENT	1.0			0.3	0.0	0.0	0.3	0.0	0.2	0.2				0.0		0.1		0.1	
WYOMING			1	2			1				1		3					2	10
ROW PERCENT			10.0	20.0			10.0				10.0		30.0					20.0	
COL PERCENT			0.1	0.0			0.1				0.2		0.1					0.0	
FOREIGN COUNTRY		1		111	4	1	4	8	8	3	6		6	2		3		18	175
ROW PERCENT		0.6		63.4	2.3	0.6	2.3	4.6	4.6	1.7	3.4		3.4	1.1		1.7		10.3	
COL PERCENT		0.1		1.1	0.1	0.0	0.5	0.4	0.4	0.2	1.1		0.1	0.1		0.2		0.3	
UNKNOWN	3					1							3						7
ROW PERCENT	42.9					14.3							42.9						
COL PERCENT	0.3					0.0							0.1						
TOTALS	1191	969	885	10324	2989	6121	879	2253	1927	1536	542	2026	5233	2473	734	1471	0	5366	46919

NOTE : TEXAS DATA ARE NOT INCLUDED IN THIS TABLE, AS WELL
AS GULF SUBREGIONS TABLES.

TABLE 43. AGE FREQUENCY OF INTERCEPTED FISHERMEN BY SUBREGION
JAN 1986--DEC 1986 (1)

SUBREGION	UNDER 5	5-13	14-17	18-24	25-34	35-44	45-54	55-64	OVER 65	TOTALS
NORTH ATLANTIC	5	345	243	575	1201	1082	682	454	390	4977
	0.1	6.9	4.9	11.6	24.1	21.7	13.7	9.1	7.8	
MID ATLANTIC	5	717	561	1420	3516	3382	2426	1815	1366	15208
	0.0	4.7	3.7	9.3	23.1	22.2	16.0	11.9	9.0	
SOUTH ATLANTIC	9	637	437	1188	3116	2703	1553	1267	786	11696
	0.1	5.4	3.7	10.2	26.6	23.1	13.3	10.8	6.7	
GULF	3	707	518	1279	3343	2945	1740	1345	1042	12922
	0.0	5.5	4.0	9.9	25.9	22.8	13.5	10.4	8.1	
TOTALS	22	2406	1759	4462	11176	10112	6401	4881	3584	44803

TABLE 44. SEX DISTRIBUTION OF INTERCEPTED FISHERMEN BY SUBREGION
JAN 1986--DEC 1986 (1)

SUBREGION	MALE	FEMALE	TOTALS
NORTH ATLANTIC	4367	610	4977
	87.7	12.3	
MID-ATLANTIC	13361	1847	15208
	87.9	12.1	
SOUTH ATLANTIC	9663	2033	11696
	82.6	17.4	
GULF	11098	1824	12922
	85.9	14.1	
TOTALS	38489	6314	44803

1 NOTE: FOR BOTH TABLES THESE FIGURES APPLY TO TOTAL TRIPS INTERCEPTED. THEY DO NOT APPLY TO "PARTICIPANTS." IN OTHER WORDS, HIGHLY AVID FISHERMEN ARE OVERREPRESENTED IN THE TOTALS.

2 NOTE: TEXAS DATA ARE NOT INCLUDED IN THIS TABLE, AS WELL AS GULF SUBREGIONS TABLES.

TABLE 45. TABULATION OF NUMBER OF HOUSEHOLDS INTERVIEWED AND NUMBER OF FISHING HOUSEHOLDS BY WAVE, SUBREGION, AND STATE FOR TELEPHONE SURVEY, JAN 1986--DEC 1986

PART 1 OF 6
JAN/FEB WAVE

SUBREGION	STATE	FISHING HOUSEHOLDS	NONFISHING HOUSEHOLDS	TOTAL HOUSEHOLDS
NORTH ATLANTIC				
	CONNECTICUT	0	0	0
	MAINE	0	0	0
	MASSACHUSETTS	0	0	0
	NEW HAMPSHIRE	0	0	0
	RHODE ISLAND	0	0	0
	TOTALS	0	0	0
MID ATLANTIC				
	DELAWARE	0	0	0
	MARYLAND	0	0	0
	NEW JERSEY	0	0	0
	NEW YORK	0	0	0
	VIRGINIA	0	0	0
	TOTALS	0	0	0
SOUTH ATLANTIC				
	FLORIDA	64	615	679
	GEORGIA	10	229	239
	NORTH CAROLINA	0	0	0
	SOUTH CAROLINA	0	0	0
	TOTALS	74	844	918
GULF				
	ALABAMA	9	162	171
	FLORIDA	45	465	510
	LOUISIANA	27	404	431
	MISSISSIPPI	10	172	182
	TEXAS	55	475	530
	TOTALS	146	1,678	1,824
	WAVE TOTALS	220	2,522	2,742

TABLE 45. TABULATION OF NUMBER OF HOUSEHOLDS INTERVIEWED AND NUMBER OF FISHING HOUSEHOLDS BY WAVE, SUBREGION, AND STATE FOR TELEPHONE SURVEY, JAN 1986--DEC 1986

PART 2 OF 6
MAR/APR WAVE

SUBREGION	STATE	FISHING HOUSEHOLDS	NONFISHING HOUSEHOLDS	TOTAL HOUSEHOLDS
NORTH ATLANTIC				
	CONNECTICUT	16	958	974
	MAINE	3	489	492
	MASSACHUSETTS	23	1,073	1,096
	NEW HAMPSHIRE	5	378	383
	RHODE ISLAND	14	486	500
	TOTALS	61	3,384	3,445
MID ATLANTIC				
	DELAWARE	10	214	224
	MARYLAND	13	516	529
	NEW JERSEY	17	692	709
	NEW YORK	33	1,579	1,612
	VIRGINIA	32	883	915
	TOTALS	105	3,884	3,989
SOUTH ATLANTIC				
	FLORIDA	82	809	891
	GEORGIA	41	594	635
	NORTH CAROLINA	33	421	454
	SOUTH CAROLINA	20	403	423
	TOTALS	176	2,227	2,403
GULF				
	ALABAMA	20	200	220
	FLORIDA	50	598	648
	LOUISIANA	41	571	612
	MISSISSIPPI	28	224	252
	TEXAS	74	646	720
	TOTALS	213	2,239	2,452
	WAVE TOTALS	555	11,734	12,289

TABLE 45. TABULATION OF NUMBER OF HOUSEHOLDS INTERVIEWED AND NUMBER OF FISHING HOUSEHOLDS BY WAVE, SUBREGION, AND STATE FOR TELEPHONE SURVEY, JAN 1986--DEC 1986

PART 3 OF 6
MAY/JUN WAVE

SUBREGION	STATE	FISHING HOUSEHOLDS	NONFISHING HOUSEHOLDS	TOTAL HOUSEHOLDS
NORTH ATLANTIC				
	CONNECTICUT	55	1,086	1,141
	MAINE	20	591	611
	MASSACHUSETTS	74	1,253	1,327
	NEW HAMPSHIRE	15	462	477
	RHODE ISLAND	34	590	624
	TOTALS	198	3,982	4,180
MID ATLANTIC				
	DELAWARE	30	241	271
	MARYLAND	57	601	658
	NEW JERSEY	79	832	911
	NEW YORK	76	1,735	1,811
	VIRGINIA	123	1,022	1,145
	TOTALS	365	4,431	4,796
SOUTH ATLANTIC				
	FLORIDA	119	921	1,040
	GEORGIA	72	726	798
	NORTH CAROLINA	57	486	543
	SOUTH CAROLINA	44	456	500
	TOTALS	292	2,589	2,881
GULF				
	ALABAMA	30	290	320
	FLORIDA	89	728	817
	LOUISIANA	60	644	704
	MISSISSIPPI	28	256	284
	TEXAS	89	769	858
	TOTALS	296	2,687	2,983
	WAVE TOTALS	1,151	13,689	14,840

NOTE: THE TELEPHONE ZONE IN THE SOUTH ATLANTIC AND GULF OF MEXICO SUBREGIONS INCLUDED COUNTIES THAT ARE WITHIN 50 MILES OF THE COAST.

TABLE 45. TABULATION OF NUMBER OF HOUSEHOLDS INTERVIEWED AND NUMBER OF FISHING HOUSEHOLDS BY WAVE, SUBREGION, AND STATE FOR TELEPHONE SURVEY, JAN 1986--DEC 1986

PART 4 OF 6
JUL/AUG WAVE

SUBREGION	STATE	FISHING HOUSEHOLDS	NONFISHING HOUSEHOLDS	TOTAL HOUSEHOLDS
NORTH ATLANTIC				
	CONNECTICUT	91	1,307	1,398
	MAINE	73	672	745
	MASSACHUSETTS	149	1,476	1,625
	NEW HAMPSHIRE	48	532	580
	RHODE ISLAND	70	688	758
	TOTALS	431	4,675	5,106
MID ATLANTIC				
	DELAWARE	29	258	287
	MARYLAND	51	671	722
	NEW JERSEY	109	1,102	1,211
	NEW YORK	152	2,079	2,231
	VIRGINIA	144	1,161	1,305
	TOTALS	485	5,271	5,756
SOUTH ATLANTIC				
	FLORIDA	136	1,118	1,254
	GEORGIA	43	444	487
	NORTH CAROLINA	96	565	661
	SOUTH CAROLINA	56	563	619
	TOTALS	331	2,690	3,021
GULF				
	ALABAMA	31	363	394
	FLORIDA	97	897	994
	LOUISIANA	88	776	864
	MISSISSIPPI	52	301	353
	TEXAS	115	948	1,063
	TOTALS	383	3,285	3,668
	WAVE TOTALS	1,630	15,921	17,551

NOTE: THE TELEPHONE ZONE IN THE SOUTH ATLANTIC AND GULF OF MEXICO SUBREGIONS INCLUDED COUNTIES THAT ARE WITHIN 50 MILES OF THE COAST.

TABLE 45. TABULATION OF NUMBER OF HOUSEHOLDS INTERVIEWED AND NUMBER OF FISHING HOUSEHOLDS BY WAVE, SUBREGION, AND STATE FOR TELEPHONE SURVEY, JAN 1986--DEC 1986

PART 5 OF 6
SEP/OCT WAVE

SUBREGION	STATE	FISHING HOUSEHOLDS	NONFISHING HOUSEHOLDS	TOTAL HOUSEHOLDS
NORTH ATLANTIC				
	CONNECTICUT	87	1,226	1,313
	MAINE	24	685	709
	MASSACHUSETTS	111	1,435	1,546
	NEW HAMPSHIRE	16	537	553
	RHODE ISLAND	53	666	719
	TOTALS	291	4,549	4,840
MID ATLANTIC				
	DELAWARE	15	258	273
	MARYLAND	47	634	681
	NEW JERSEY	89	1,059	1,148
	NEW YORK	100	2,049	2,149
	VIRGINIA	81	1,156	1,237
	TOTALS	332	5,156	5,488
SOUTH ATLANTIC				
	FLORIDA	113	1,060	1,173
	GEORGIA	49	416	465
	NORTH CAROLINA	67	563	630
	SOUTH CAROLINA	49	525	574
	TOTALS	278	2,564	2,842
GULF				
	ALABAMA	21	352	373
	FLORIDA	103	797	900
	LOUISIANA	73	750	823
	MISSISSIPPI	38	289	327
	TEXAS	106	939	1,045
	TOTALS	341	3,127	3,468
	WAVE TOTALS	1,242	15,396	16,638

NOTE: THE TELEPHONE ZONE IN THE SOUTH ATLANTIC AND GULF OF MEXICO SUBREGIONS INCLUDED COUNTIES THAT ARE WITHIN 50 MILES OF THE COAST.

TABLE 45. TABULATION OF NUMBER OF HOUSEHOLDS INTERVIEWED AND NUMBER OF FISHING HOUSEHOLDS BY WAVE, SUBREGION, AND STATE FOR TELEPHONE SURVEY, JAN 1986--DEC 1986

PART 6 OF 6
NOV/DEC WAVE

SUBREGION	STATE	FISHING HOUSEHOLDS	NONFISHING HOUSEHOLDS	TOTAL HOUSEHOLDS
NORTH ATLANTIC				
	CONNECTICUT	14	827	841
	MAINE	1	435	436
	MASSACHUSETTS	16	987	1,003
	NEW HAMPSHIRE	5	336	341
	RHODE ISLAND	19	464	483
	TOTALS	55	3,049	3,104
MID ATLANTIC				
	DELAWARE	4	166	170
	MARYLAND	13	481	494
	NEW JERSEY	18	675	693
	NEW YORK	23	1,190	1,213
	VIRGINIA	22	928	950
	TOTALS	80	3,440	3,520
SOUTH ATLANTIC				
	FLORIDA	57	776	833
	GEORGIA	28	233	261
	NORTH CAROLINA	30	391	421
	SOUTH CAROLINA	29	348	377
	TOTALS	144	1,748	1,892
GULF				
	ALABAMA	19	198	217
	FLORIDA	59	571	630
	LOUISIANA	47	475	522
	MISSISSIPPI	26	180	206
	TEXAS	63	602	665
	TOTALS	214	2,026	2,240
	WAVE TOTALS	493	10,263	10,756

TABLE 46. ESTIMATES OF THE STANDARD ERRORS OF THE TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E	CV	EST	S.E.	CV	EST.	S.E.	CV
	THOUSANDS														
01. SHARKS	33	12	37	1,141	371	33	452	72	16	695	71	10	2,322	385	17
02. SHARKS, DOGFISH	410	83	20	1,563	312	20	179	82	45				2,172	333	15
03. SKATES/RAYS	521	129	25	409	101	25	306	115	38	404	66	16	1,639	210	13
04. EELS	42	12	28	285	55	19				54	12	21	410	59	14
05. HERRINGS	701	362	52	1,085	509	47	5,068	1491	29	4,148	1474	36	11,002	2188	20
06. FRESHWATER CATFISHES	*	*	*	695	160	23	94	18	19	938	167	18	1,727	231	13
07. SALTWATER CATFISHES	*	*	*				3,033	386	13	15,331	1747	11	18,368	1789	10
08. TOADFISHES				2,705	377	14	559	105	19	200	41	21	3,464	393	11
09. ATLANTIC COD	1,493	405	27	56	20	36	*	*	*	*	*	*	1,549	406	26
10. ATLANTIC TOMCOD	349	281	80	-	-	-	*	*	*	*	*	*	355	281	79
11. POLLOCK	436	97	22				*	*	*	*	*	*	446	97	22
12. SILVER HAKE				160	79	49	*	*	*	*	*	*	168	79	47
13. SEAROBINS	834	193	23	10,908	1461	13	75	26	35	41	20	50	11,858	1474	12
14. SCULPINS	318	97	31				*	*	*	*	*	*	323	97	30
15. WHITE PERCH	-	-	-	3,978	723	18	144	53	37	*	*	*	4,125	725	18
16. STRIPED BASS	683	279	41	706	174	25							1,429	329	23
17. BLACK SEA BASS	981	190	19	30,257	7128	24	1,677	220	13	1,824	302	17	34,739	7140	21
18. GROUPERS	*	*	*	*	*	*	156	46	30	2,227	298	13	2,383	301	13
19. SEA BASSES	*	*	*				138	34	25	1,152	186	16	1,300	190	15
20. BLUEFISH	10,646	1650	16	18,379	1326	7	3,101	365	12	541	105	19	32,667	2151	7
21. JACK CREVALLE	*	*	*	*	*	*	2,566	659	26	761	193	25	3,328	686	21
22. BLUE RUNNER	*	*	*	*	*	*	2,671	517	19	687	146	21	3,358	537	16
23. GREATER AMBERJACK	*	*	*	37	13	35	123	31	25	282	56	20	442	65	15
24. FLORIDA POMPANO	*	*	*				1,830	733	40	253	110	44	2,099	741	35
25. JACKS	*	*	*	148	84	57	747	297	40	1,815	365	20	2,710	478	18
26. DOLPHINS	*	*	*	37	16	43	603	104	17	614	139	23	1,254	174	14
27. GRAY SNAPPER	*	*	*	*	*	*	529	78	15	1,561	318	20	2,090	328	16
28. RED SNAPPER	*	*	*	*	*	*	210	75	36	645	189	29	855	204	24
29. LANE SNAPPER	*	*	*	*	*	*	45	14	30	174	42	24	218	44	20
30. VERMILION SNAPPER	*	*	*	*	*	*	56	23	41	303	106	35	359	108	30
31. YELLOWTAIL SNAPPER	*	*	*	*	*	*	278	84	30	302	78	26	580	114	20
32. SNAPPERS	*	*	*	*	*	*	134	29	21	199	81	40	334	86	26
33. PIGFISH	*	*	*	104	22	22	338	71	21	1,011	240	24	1,453	252	17
34. WHITE GRUNT	*	*	*	*	*	*	698	176	25	992	151	15	1,690	232	14
35. GRUNTS	*	*	*	-	-	-	1,036	308	30	2,279	393	17	3,320	499	15

CONTINUED

TABLE 46. ESTIMATES OF THE STANDARD ERRORS OF THE TOTAL NUMBER OF FISH CAUGHT BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
	THOUSANDS														
36. SCUP	21,567	2836	13	10,794	1710	16	*	*	*	*	*	*	32,361	3311	10
37. PINFISH	*	*	*				2,547	454	18	7,325	880	12	9,882	990	10
38. SHEEPSHEAD	*	*	*	31	27	88	839	122	15	1,852	354	19	2,722	375	14
39. RED PORGY	*	*	*	*	*	*				255	78	31	269	79	29
40. PORGIES	*	*	*	_	_	_	134	70	52	88	30	34	225	76	34
41. SPOTTED SEATROUT	*	*	*	179	38	21	1,958	242	12	21,455	1691	8	23,592	1709	7
42. WEAKFISH	_	_	_	11,106	1101	10	1,204	292	24	*	*	*	12,322	1139	9
43. SAND SEATROUT	*	*	*	*	*	*	*	*	*	6,404	702	11	6,404	702	11
44. SILVER PERCH	*	*	*				154	26	17	298	109	37	465	112	24
45. SPOT	*	*	*	15,738	1343	9	5,761	941	16	142	63	45	21,640	1641	8
46. KINGFISHES	*	*	*	656	154	23	3,271	712	22	4,102	1254	31	8,029	1450	18
47. ATLANTIC CROAKER	*	*	*	12,988	2053	16	6,088	1598	26	14,912	2030	14	33,989	3300	10
48. BLACK DRUM	*	*	*	34	16	46	403	86	21	1,430	203	14	1,867	221	12
49. RED DRUM	*	*	*	57	14	25	553	69	13	3,513	304	9	4,123	312	8
50. DRUMS	*	*	*	36	13	35	237	109	46	1,281	154	12	1,554	189	12
51. MULLETS	*	*	*	46	20	43	1,713	622	36	4,582	945	21	6,341	1132	18
52. BARRACUDAS	*	*	*				253	52	21	221	65	30	477	84	18
53. TAUTOG	4,179	755	18	4,996	1087	22	_	_	_	*	*	*	9,186	1323	14
54. CUNNER	1,321	274	21	1,383	190	14	*	*	*	*	*	*	2,703	334	12
55. LITTLE TUNNY/ATL.BONITO	563	529	94	54	12	21	655	177	27	523	85	16	1,795	564	31
56. ATLANTIC MACKEREL	1,238	314	25	4,642	1477	32	*	*	*	*	*	*	5,879	1510	26
57. KING MACKEREL	*	*	*				592	125	21	147	29	20	753	129	17
58. SPANISH MACKEREL	*	*	*	_	_	_	1,066	210	20	7,914	950	12	8,987	973	11
59. TUNAS/MACKERELS	33	10	29	534	128	24	150	30	20	209	37	18	927	137	15
60. SUMMER FLOUNDER	4,305	785	18	18,394	1553	8	1,484	525	35	*	*	*	24,183	1817	8
61. GULF FLOUNDER	*	*	*	*	*	*	*	*	*	502	95	19	502	95	19
62. SOUTHERN FLOUNDER	*	*	*				441	61	14	2,568	631	25	3,021	634	21
63. WINTER FLOUNDER	5,411	1450	27	5,016	514	10	*	*	*	*	*	*	10,428	1538	15
64. FLOUNDERS	55	20	36	828	239	29	*	*	*	1,539	452	29	2,422	512	21
65. TRIGGERFISHES/FILEFISHES	--	_	_	60	27	44	158	34	22	231	70	30	452	82	18
66. PUFFERS				381	44	11	378	100	27	227	56	25	1,000	123	12
67. OTHER FISHES	505	164	33	2,930	584	20	2,100	453	22	10,663	1592	15	16,199	1763	11
TOTALS	56,654	3886	7	163,670	8521	5	59,047	3067	5	131,865	4605	3	411,235	10878	3

NOTE: EST. = ESTIMATE, S.E. = STANDARD ERROR OF ESTIMATE, CV = COEFFICIENT OF VARIATION

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES AN ESTIMATE LESS THAN THIRTY THOUSAND. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

TABLE 47. ESTIMATES OF THE STANDARD ERRORS OF THE TOTAL NUMBER OF FISH CAUGHT (CATCH TYPE A + B1) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
	THOUSANDS														
01. SHARKS				160	56	35	100	18	18	322	47	15	588	76	13
02. SHARKS, DOGFISH	131	46	35	170	28	16							331	55	17
03. SKATES/RAYS	58	33	56	33	15	46	–	–	–	85	35	42	196	51	26
04. EELS				151	48	32	–	–	–				199	51	25
05. HERRINGS	690	362	52	1,035	508	49	3,332	1020	31	3,470	1448	42	8,526	1878	22
06. FRESHWATER CATFISHES	*	*	*	267	84	31	51	11	22	247	80	32	565	116	21
07. SALTWATER CATFISHES	*	*	*				864	210	24	3,378	697	21	4,246	728	17
08. TOADFISHES	*	*	*	256	66	26	73	23	31				344	71	21
09. ATLANTIC COD	1,327	402	30	55	20	37	*	*	*	*	*	*	1,382	402	29
10. ATLANTIC TOMCOD	–	–	–	–	–	–	*	*	*	*	*	*	–	–	–
11. POLLOCK	348	92	26				*	*	*	*	*	*	359	92	26
12. SILVER HAKE				160	79	49	*	*	*	*	*	*	160	79	49
13. SEAROBINS	143	122	85	483	85	18							631	148	24
14. SCULPINS	142	81	57				–	–	–	–	–	–	145	81	56
15. WHITE PERCH	*	*	*	1,714	401	23	*	*	*	*	*	*	1,848	405	22
16. STRIPED BASS	44	16	36	95	31	33	134	52	39	*	*	*	162	36	22
17. BLACK SEA BASS	564	143	25	23,146	7053	30	977	187	19	979	255	26	25,666	7062	28
18. GROUPERS	*	*	*	*	*	*	69	13	19	1,335	247	19	1,404	248	18
19. SEA BASSES	*	*	*				39	21	54	335	80	24	382	83	22
20. BLUEFISH	8,780	1617	18	14,983	1219	8	2,433	322	13	393	99	25	26,589	2053	8
21. JACK CREVALLE	*	*	*	*	*	*	1,091	562	52	89	28	31	1,180	563	48
22. BLUE RUNNER	*	*	*	*	*	*	1,140	289	25	181	75	41	1,321	298	23
23. GREATER AMBERJACK	*	*	*				75	27	36	209	51	25	309	59	19
24. FLORIDA POMPANO	*	*	*	–	–	–	1,508	691	46	216	108	50	1,741	700	40
25. JACKS	*	*	*	95	74	79	224	92	41	1,154	344	30	1,473	364	25
26. DOLPHINS	*	*	*	35	16	46	581	103	18	569	136	24	1,185	172	14
27. GRAY SNAPPER	*	*	*	*	*	*	239	50	21	1,061	246	23	1,300	251	19
28. RED SNAPPER	*	*	*	*	*	*	210	75	36	621	189	30	831	203	24
29. LANE SNAPPER	*	*	*	*	*	*				108	30	27	115	30	26
30. VERMILION SNAPPER	*	*	*	*	*	*	47	22	48	254	104	41	301	106	35
31. YELLOWTAIL SNAPPER	*	*	*	*	*	*	119	68	57	201	72	36	320	99	31
32. SNAPPERS	*	*	*	*	*	*	57	16	27	69	18	26	125	24	19
33. PIGFISH	*	*	*	62	14	23	132	37	28	219	86	39	412	94	23
34. WHITE GRUNT	*	*	*	*	*	*	252	87	35	442	92	21	694	127	18
35. GRUNTS	*	*	*	–	–	–	208	66	32	793	294	37	1,001	301	30
36. SCUP	16,295	2526	16	9,663	1697	18	*	*	*	*	*	*	25,958	3043	12
37. PINFISH	*	*	*				1,417	319	23	3,664	753	21	5,086	818	16
38. SHEEPSHEAD	*	*	*	–	–	–	796	122	15	1,135	279	25	1,935	305	16
39. RED PORGY	*	*	*	*	*	*				234	78	33	247	78	32
40. PORGIES	*	*	*	–	–	–	134	70	52	–	–	–	161	71	44

TABLE 47. ESTIMATES OF THE STANDARD ERRORS OF THE TOTAL NUMBER OF FISH CAUGHT (CATCH TYPE A + B1) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
							THOUSANDS								
41. SPOTTED SEATROUT	*	*	*	123	32	26	1,616	234	14	15,049	1565	10	16,788	1583	9
42. WEAKFISH	_	_	_	9,122	1029	11	794	171	22	*	*	*	9,928	1043	11
43. SAND SEATROUT	*	*	*	*	*	*	*	*	*	4,388	512	12	4,388	512	12
44. SILVER PERCH	*	*	*				41	9	23	115	57	49	157	58	37
45. SPOT	*	*	*	9,973	1102	11	4,580	882	19	141	63	45	14,694	1413	10
46. KINGFISHES	*	*	*	593	153	26	2,471	669	27	3,563	1249	35	6,626	1426	22
47. ATLANTIC CROAKER	*	*	*	9,724	1979	20	5,518	1589	29	7,785	1546	20	23,026	2972	13
48. BLACK DRUM	*	*	*	34	16	46	347	84	24	982	184	19	1,363	203	15
49. RED DRUM	*	*	*	48	13	27	381	62	16	2,512	268	11	2,941	275	9
50. DRUMS	*	*	*	_	_	_	235	109	46	786	116	15	1,016	159	15
51. MULLETS	*	*	*				964	339	35	4,300	939	22	5,273	999	19
52. BARRACUDAS	*	*	*	_	_	_	65	18	28	43	24	56	110	30	27
53. TAUTOG	3,663	738	20	4,338	1079	25				*	*	*	8,011	1307	16
54. CUNNER	776	232	30	188	37	20	*	*	*	*	*	*	964	235	24
55. LITTLE TUNNY/ATL.BONITO	563	529	94	46	11	24	304	150	49	342	70	21	1,255	554	44
56. ATLANTIC MACKEREL	1,166	312	27	4,613	1477	32	*	*	*	*	*	*	5,780	1510	26
57. KING MACKEREL	*	*	*	_	_	_	575	125	22	133	28	21	720	128	18
58. SPANISH MACKEREL	*	*	*				746	137	18	4,923	658	13	5,676	672	12
59. TUNAS/MACKERELS				390	103	26	145	30	21	193	36	19	756	113	15
60. SUMMER FLOUNDER	2,919	650	22	7,861	831	11	1,212	520	43	*	*	*	11,991	1176	10
61. GULF FLOUNDER	*	*	*	*	*	*	*	*	*	331	64	19	331	64	19
62. SOUTHERN FLOUNDER	*	*	*				377	59	16	2,111	601	28	2,489	604	24
63. WINTER FLOUNDER	4,166	1362	33	3,721	474	13	*	*	*	*	*	*	7,886	1442	18
64. FLOUNDERS	_	_	_	194	90	46	*	*	*	1,222	439	36	1,438	448	31
65. TRIGGERFISHES/FILEFISHES	_	_	_	58	27	46	49	14	30	172	48	28	282	57	20
66. PUFFERS				172	27	16	66	23	36				256	39	15
67. OTHER FISHES	336	139	41	1,489	367	25	1,356	438	32	4,094	1006	25	7,275	1165	16
TOTALS	42,225	3552	8	105,388	8075	8	38,234	2602	7	75,048	3666	5	260,894	9901	4

NOTE: EST. = ESTIMATE, S.E. = STANDARD ERROR OF ESTIMATE, CV = COEFFICIENT OF VARIATION

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES AN ESTIMATE LESS THAN THIRTY THOUSAND. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

CATCH TYPE B1: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH NOT AVAILABLE IN WHOLE FORM FOR INTERVIEWER'S IDENTIFICATION, AS REPORTED BY FISHERMEN. INCLUDED ARE THOSE FISH USED AS BAIT, FILLETED, GIVEN AWAY, DISCARDED DEAD, ETC., EXCLUDING FISH RELEASED ALIVE.

TABLE 48. ESTIMATES OF THE STANDARD ERRORS OF THE NUMBER OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
							THOUSANDS								
01. SHARKS	*	*	*	94	19	21	57	13	23	47	9	18	198	25	13
02. SHARKS, DOGFISH	-	-	-	110	22	20	-	-	-	*	*	*	114	22	19
03. SKATES/RAYS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04. EELS	-	-	-	133	48	36	-	-	-	-	-	-	142	48	34
05. HERRINGS	528	351	66	755	502	66	329	285	87	-	-	-	1,612	675	42
06. FRESHWATER CATFISHES	*	*	*	261	83	32	33	8	24	215	79	37	509	115	23
07. SALTWATER CATFISHES	*	*	*	-	-	-	394	73	19	302	58	19	701	93	13
08. TOADFISHES	*	*	*										33	12	36
09. ATLANTIC COD	163	117	72	47	20	42	*	*	*	*	*	*	209	118	56
10. ATLANTIC TOMCOD	-	-	-	-	-	-	*	*	*	*	*	*	-	-	-
11. POLLOCK	92	30	33				*	*	*	*	*	*	94	30	32
12. SILVER HAKE	*	*	*	158	79	50	*	*	*	*	*	*	158	79	50
13. SEAROBINS	-	-	-	103	23	22	-	-	-	-	-	-	125	24	19
14. SCULPINS	*	*	*				*	*	*	*	*	*			
15. WHITE PERCH	*	*	*	1,636	396	24	120	51	43	*	*	*	1,756	399	23
16. STRIPED BASS				95	31	33							138	34	24
17. BLACK SEA BASS	535	142	27	15,800	6548	41	736	149	20	461	207	45	17,532	6554	37
18. GROUPERS	*	*	*	*	*	*	50	12	23	511	175	34	561	175	31
19. SEA BASSES	*	*	*				36	21	59	121	37	31	160	43	27
20. BLUEFISH	4,610	895	19	9,936	975	10	1,500	247	16	126	55	43	16,172	1347	8
21. JACK CREVALLE	*	*	*	*	*	*	148	34	23	67	25	37	215	42	20
22. BLUE RUNNER	*	*	*	*	*	*	520	178	34				547	179	33
23. GREATER AMBERJACK	*	*	*				64	27	42	82	27	32	166	39	23
24. FLORIDA POMPANO	*	*	*	-	-	-	1,428	690	48	40	26	65	1,484	691	47
25. JACKS	*	*	*	83	74	89	50	34	68	35	12	35	168	83	49
26. DOLPHINS	*	*	*	31	16	52	500	98	20	173	67	39	704	120	17
27. GRAY SNAPPER	*	*	*	*	*	*	153	38	25	493	145	29	646	150	23
28. RED SNAPPER	*	*	*	*	*	*	185	74	40	443	181	41	628	196	31
29. LANE SNAPPER	*	*	*	*	*	*				73	25	35	75	25	34
30. VERMILION SNAPPER	*	*	*	*	*	*	32	14	44	95	85	89	127	86	68
31. YELLOWTAIL SNAPPER	*	*	*	*	*	*	42	13	32	100	36	36	142	39	27
32. SNAPPERS	*	*	*	*	*	*	37	10	27				67	15	22
33. PIGFISH	*	*	*	61	14	23	94	20	21	106	47	44	261	53	20
34. WHITE GRUNT	*	*	*	*	*	*	116	65	56	314	78	25	431	101	24
35. GRUNTS	*	*	*	-	-	-	93	42	45	337	273	81	431	276	64
36. SCUP	13,760	2293	17	8,173	1659	20	*	*	*	*	*	*	21,933	2830	13
37. PINFISH	*	*	*	*	*	*	769	180	23	849	296	35	1,618	347	21
38. SHEEPSHEAD	*	*	*				765	121	16	535	106	20	1,302	161	12
39. RED PORGY	*	*	*	*	*	*				51	41	81	62	42	68
40. PORGIES	*	*	*	-	-	-	104	67	64	-	-	-	121	67	56

TABLE 48. ESTIMATES OF THE STANDARD ERRORS OF THE NUMBER OF FISH CAUGHT (CATCH TYPE A) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
	THOUSANDS														
41. SPOTTED SEATROUT	*	*	*	122	32	27	1,362	225	17	11,487	1477	13	12,970	1494	12
42. WEAKFISH				6,897	882	13	521	104	20	*	*	*	7,429	888	12
43. SAND SEATROUT	_	_	_	*	*	*	*	*	*	2,148	385	18	2,148	385	18
44. SILVER PERCH	*	*	*							96	55	57	125	56	45
45. SPOT	*	*	*	8,703	1071	12	2,671	566	21	136	63	47	11,509	1213	11
46. KINGFISHES	*	*	*	545	151	28	1,382	266	19	1,876	729	39	3,804	790	21
47. ATLANTIC CROAKER	*	*	*	9,510	1978	21	5,124	1582	31	1,248	176	14	15,883	2539	16
48. BLACK DRUM	*	*	*				219	41	19	718	136	19	966	143	15
49. RED DRUM	*	*	*	47	13	27	296	57	19	1,954	245	13	2,297	252	11
50. DRUMS	*	*	*	_	_	_	235	109	46	468	93	18	717	137	19
51. MULLETS	*	*	*				344	173	50	1,428	504	35	1,778	533	30
52. BARRACUDAS	*	*	*	_	_	_	54	17	32	32	24	73	88	29	33
53. TAUTOG	2,441	491	20	1,886	257	14				*	*	*	4,330	554	13
54. CUNNER				96	28	29	_	_	_	*	*	*	107	28	27
55. LITTLE TUNNY/ATL.BONITO	37	17	47	37	10	28	156	123	79	80	25	31	310	127	41
56. ATLANTIC MACKEREL	228	60	26	3,456	1285	37	*	*	*	*	*	*	3,684	1286	35
57. KING MACKEREL	*	*	*				502	123	25	50	16	32	563	124	22
58. SPANISH MACKEREL	*	*	*	_	_	_	581	127	22	2,301	371	16	2,886	392	14
59. TUNAS/MACKERELS				209	46	22	100	27	27	100	22	22	428	59	14
60. SUMMER FLOUNDER	1,290	409	32	6,106	791	13	1,077	517	48	*	*	*	8,474	1030	12
61. GULF FLOUNDER	*	*	*	*	*	*	*	*	*	150	36	24	150	36	24
62. SOUTHERN FLOUNDER	*	*	*				335	57	17	471	71	15	807	91	11
63. WINTER FLOUNDER	2,185	780	36	2,585	428	17	*	*	*	*	*	*	4,770	889	19
64. FLOUNDERS	_	_	_	128	76	59	*	*	*				162	77	48
65. TRIGGERFISHES/FILEFISHES	_	_	_	37	20	55	45	14	32	45	15	34	130	29	23
66. PUFFERS	_	_	_	157	26	17	54	22	41	*	*	*	212	34	16
67. OTHER FISHES	_	_	_	967	313	32	1,294	437	34	526	93	18	2,800	546	19
TOTALS	26,001	2690	10	79,104	7450	9	24,762	2067	8	31,034	1932	6	160,901	8411	5

NOTE: EST. = ESTIMATE, S.E. = STANDARD ERROR OF ESTIMATE, CV = COEFFICIENT OF VARIATION

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES AN ESTIMATE LESS THAN THIRTY THOUSAND. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

CATCH TYPE A: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH BROUGHT ASHORE IN WHOLE FORM, AVAILABLE FOR INTERVIEWER IDENTIFICATION AND ENUMERATION, FROM WHICH SAMPLES OF LENGTHS AND WEIGHTS WERE OBTAINED.

TABLE 49. ESTIMATES OF THE STANDARD ERRORS OF THE NUMBER OF FISH CAUGHT (CATCH TYPE B1) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
	THOUSANDS														
01. SHARKS				67	53	79	44	13	30	275	46	17	391	71	18
02. SHARKS, DOGFISH	127	46	36	61	18	29	-	-	-				217	51	23
03. SKATES/RAYS	54	33	61	-	-	-	-	-	--	71	34	48	169	50	30
04. EELS													57	17	30
05. HERRINGS	162	90	55	280	81	29	3,004	980	33	3,469	1448	42	6,914	1753	25
06. FRESHWATER CATFISHES	*	*	*							33	13	41	56	16	28
07. SALTWATER CATFISHES	*	*	*	*	*	*	469	197	42	3,076	694	23	3,546	722	20
08. TOADFISHES	*	*	*	246	66	27	64	22	34				311	70	22
09. ATLANTIC COD	1,165	385	33				*	*	*	*	*	*	1,173	385	33
10. ATLANTIC TOMCOD	-	-	-	-	-	-	*	*	*	*	*	*	-	-	-
11. POLLOCK	256	87	34	-	-	-	*	*	*	*	*	*	265	87	33
12. SILVER HAKE							*	*	*	*	*	*			
13. SEAROBINS	123	122	99	380	82	21	-	-	-	-	-	-	506	147	29
14. SCULPINS	142	81	57	*	*	*	*	*	*	*	*	*	142	81	57
15. WHITE PERCH	*	*	*	78	66	84	-	-	-	*	*	*	92	66	73
16. STRIPED BASS	-	-	-	*	*	*									
17. BLACK SEA BASS				7,346	2623	36	241	112	46	518	150	29	8,133	2630	32
18. GROUPERS	-	-	-	*	*	*	-	-	--	825	175	21	843	175	21
19. SEA BASSES	*	*	*							214	71	33	222	71	32
20. BLUEFISH	4,170	1347	32	5,047	733	15	933	207	22	267	83	31	10,417	1549	15
21. JACK CREVALLE	*	*	*	*	*	*	943	561	59				965	561	58
22. BLUE RUNNER	*	*	*	*	*	*	620	227	37	154	74	48	774	239	31
23. GREATER AMBERJACK	*	*	*							127	44	35	144	44	31
24. FLORIDA POMPANO	*	*	*	*	*	*	81	37	46	176	105	59	257	111	43
25. JACKS	*	*	*	-	-	-	173	86	50	1,120	344	31	1,304	355	27
26. DOLPHINS	*	*	*				81	32	39	396	118	30	481	123	25
27. GRAY SNAPPER	*	*	*	*	*	*	86	33	38	568	199	35	654	202	31
28. RED SNAPPER	*	*	*	*	*	*	-	-	-	178	53	30	203	55	27
29. LANE SNAPPER	*	*	*	*	*	*	--	-	-	35	15	44	41	16	40
30. VERMILION SNAPPER	*	*	*	*	*	*	-	-	-	159	59	37	174	62	36
31. YELLOWTAIL SNAPPER	*	*	*	*	*	*	77	66	86	101	62	61	178	91	51
32. SNAPPERS	*	*	*	*	*	*				39	14	35	58	18	31
33. PIGFISH	*	*	*				38	31	81	113	72	64	151	78	52
34. WHITE GRUNT	*	*	*	*	*	*	136	58	43	128	49	39	263	76	29
35. GRUNTS	*	*	*	*	*	*	115	51	44	456	109	24	571	120	21
36. SCUP	2,534	1060	42	1,490	358	24	*	*	*	*	*	*	4,025	1119	28
37. PINFISH	*	*	*				648	263	41	2,815	692	25	3,468	741	21
38. SHEEPSHEAD	*	*	*	-	-	-	31	12	39	600	258	43	632	258	41
39. RED PORGY	*	*	*	*	*	*				183	66	36	185	66	35
40. PORGIES	*	*	*	*	*	*	-	-	-	-	-	-	40	23	57

TABLE 49.- ESTIMATES OF THE STANDARD ERRORS OF THE NUMBER OF FISH CAUGHT (CATCH TYPE B1) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
	THOUSANDS														
41. SPOTTED SEATROUT	*	*	*				255	63	25	3,562	517	15	3,818	521	14
42. WEAKFISH	*	*	*	2,225	530	24	273	136	50	*	*	*	2,498	547	22
43. SAND SEATROUT	*	*	*	*	*	*	*	*	*	2,240	338	15	2,240	338	15
44. SILVER PERCH	*	*	*	*	*	*							33	15	46
45. SPOT	*	*	*	1,270	260	20	1,910	676	35				3,185	725	23
46. KINGFISHES	*	*	*	48	22	46	1,088	614	56	1,686	1015	60	2,823	1186	42
47. ATLANTIC CROAKER	*	*	*	213	74	35	393	150	38	6,536	1536	23	7,143	1545	22
48. BLACK DRUM	*	*	*				128	73	57	264	124	47	397	144	36
49. RED DRUM	*	*	*				85	23	27	558	108	19	644	111	17
50. DRUMS	*	*	*				*	*	*	318	81	25	329	81	25
51. MULLETS	*	*	*				619	291	47	2,872	792	28	3,495	844	24
52. BARRACUDAS	*	*	*	*	*	*									
53. TAUTOG	1,222	551	45	2,451	1049	43				*	*	*	3,681	1184	32
54. CUNNER	766	232	30	92	24	26	*	*	*	*	*	*	858	233	27
55. LITTLE TUNNY/ATL.BONITO	526	529	101				148	85	57	262	66	25	945	540	57
56. ATLANTIC MACKEREL	938	306	33	1,158	729	63	*	*	*	*	*	*	2,096	791	38
57. KING MACKEREL	*	*	*				73	21	29	83	23	28	157	32	20
58. SPANISH MACKEREL	*	*	*				165	52	31	2,622	543	21	2,790	546	20
59. TUNAS/MACKERELS				181	92	51	45	13	29	93	29	31	327	97	30
60. SUMMER FLOUNDER	1,629	505	31	1,754	254	14	134	54	40	*	*	*	3,517	567	16
61. GULF FLOUNDER	*	*	*	*	*	*	*	*	*	181	52	29	181	52	29
62. SOUTHERN FLOUNDER	*	*	*	*	*	*	42	14	34	1,640	597	36	1,682	597	35
63. WINTER FLOUNDER	1,980	1117	56	1,136	202	18	*	*	*	*	*	*	3,116	1135	36
64. FLOUNDERS				66	47	72	*	*	*	1,202	439	36	1,275	441	35
65. TRIGGERFISHES/FILEFISHES	*	*	*							128	46	36	153	49	32
66. PUFFERS	*	*	*										44	19	42
67. OTHER FISHES	324	138	43	522	190	36	62	28	45	3,567	1001	28	4,475	1029	23
TOTALS	16,224	2319	14	26,284	3116	12	13,472	1581	12	44,014	3116	7	99,993	5224	5

NOTE: EST. = ESTIMATE, S.E. = STANDARD ERROR OF ESTIMATE, CV = COEFFICIENT OF VARIATION

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES AN ESTIMATE LESS THAN THIRTY THOUSAND. HOWEVER, THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

CATCH TYPE B1: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH NOT AVAILABLE IN WHOLE FORM FOR INTERVIEWER'S IDENTIFICATION, AS REPORTED BY FISHERMEN. INCLUDED ARE THOSE FISH USED AS BAIT, FILLETED, GIVEN AWAY, DISCARDED DEAD, ETC., EXCLUDING FISH RELEASED ALIVE.

TABLE 50. ESTIMATES OF THE STANDARD ERRORS OF THE NUMBER OF FISH CAUGHT (CATCH TYPE B2) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
	THOUSANDS														
01. SHARKS				981	367	37	352	69	20	373	53	14	1,733	377	22
02. SHARKS, DOGFISH	280	69	25	1,393	311	22	154	81	52				1,841	329	18
03. SKATES/RAYS	463	124	27	376	100	26	286	115	40	319	56	17	1,444	204	14
04. EELS	-	-	-	134	27	20				43	10	24	211	30	14
05. HERRINGS	-	-	-	50	26	53	1,735	1088	63	679	274	40	2,476	1122	45
06. FRESHWATER CATFISHES	*	*	*	428	136	32	43	14	33	691	146	21	1,162	200	17
07. SALTWATER CATFISHES	*	*	*	*	*	*	2,169	324	15	11,953	1602	13	14,121	1635	12
08. TOADFISHES				2,448	371	15	486	102	21	185	40	22	3,119	387	12
09. ATLANTIC COD	166	51	31	-	-	-	*	*	*	*	*	*	166	51	31
10. ATLANTIC TOMCOD	328	281	86	-	-	-	*	*	*	*	*	*	332	281	85
11. POLLOCK	88	32	36	*	*	*	*	*	*	*	*	*	88	32	36
12. SILVER HAKE				*	*	*	*	*	*	*	*	*			
13. SEAROBINS	691	150	22	10,425	1458	14	74	26	35	38	20	54	11,227	1466	13
14. SCULPINS	176	53	30				*	*	*	*	*	*	178	54	30
15. WHITE PERCH	-	-	-	2,264	601	27	-	-	-	*	*	*	2,276	602	26
16. STRIPED BASS	639	279	44	612	171	28							1,267	327	26
17. BLACK SEA BASS	417	125	30	7,112	1026	14	700	115	16	845	162	19	9,073	1053	12
18. GROUPERS	*	*	*	*	*	*	87	44	51	892	166	19	979	171	17
19. SEA BASSES	*	*	*				98	27	27	817	168	21	918	170	19
20. BLUEFISH	1,866	330	18	3,396	520	15	668	172	26	148	36	25	6,078	640	11
21. JACK CREVALLE	*	*	*	*	*	*	1,476	344	23	672	191	28	2,148	393	18
22. BLUE RUNNER	*	*	*	*	*	*	1,531	428	28	506	126	25	2,037	447	22
23. GREATER AMBERJACK	*	*	*				48	14	28	74	22	30	133	27	20
24. FLORIDA POMPANO	*	*	*	-	-	-	321	244	76	37	23	61	359	245	68
25. JACKS	*	*	*	53	39	72	523	283	54	661	121	18	1,237	310	25
26. DOLPHINS	*	*	*							45	30	66	70	31	45
27. GRAY SNAPPER	*	*	*	-	-	-	290	59	20	500	202	40	790	210	27
28. RED SNAPPER	*	*	*	*	*	*	*	*	*						
29. LANE SNAPPER	*	*	*	*	*	*	37	12	33	66	29	45	103	32	31
30. VERMILION SNAPPER	*	*	*	*	*	*	-	-	-	50	22	44	59	23	39
31. YELLOWTAIL SNAPPER	*	*	*	*	*	*	159	50	31	101	30	29	260	58	22
32. SNAPPERS	*	*	*	*	*	*	78	24	31	131	79	60	208	82	40
33. PIGFISH	*	*	*	42	17	41	206	60	29	793	225	28	1,041	233	22
34. WHITE GRUNT	*	*	*	*	*	*	446	153	34	550	120	22	996	195	20
35. GRUNTS	*	*	*	-	-	-	828	301	36	1,485	261	18	2,319	398	17
36. SCUP	5,272	1288	24	1,131	208	18	*	*	*	*	*	*	6,403	1304	20
37. PINFISH	*	*	*	-	-	-	1,130	322	29	3,661	456	12	4,796	559	12
38. SHEEPSHEAD	*	*	*				43	11	26	717	217	30	787	219	28
39. RED PORGY	*	*	*	*	*	*									
40. PORGIES	*	*	*	-	-	-	*	*	*	62	29	46	64	29	45

TABLE 50. ESTIMATES OF THE STANDARD ERRORS OF THE NUMBER OF FISH CAUGHT (CATCH TYPE B2) BY MARINE RECREATIONAL FISHERMEN BY SPECIES GROUP AND SUBREGION, JAN 1986--DEC 1986

SPECIES GROUP	NORTH ATLANTIC			MID-ATLANTIC			SOUTH ATLANTIC			GULF			ALL SUBREGIONS		
	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV	EST.	S.E.	CV
	THOUSANDS														
41. SPOTTED SEATROUT	*	*	*	56	20	36	342	63	19	6,406	642	10	6,804	646	9
42. WEAKFISH	*	*	*	1,984	391	20	410	237	58	*	*	*	2,394	457	19
43. SAND SEATROUT	*	*	*	*	*	*	*	*	*	2,016	481	24	2,016	481	24
44. SILVER PERCH	*	*	*				113	24	22	183	93	51	308	96	31
45. SPOT	*	*	*	5,765	767	13	1,180	329	28	--	-	-	6,946	834	12
46. KINGFISHES	*	*	*	63	18	29	801	242	30	539	104	19	1,402	264	19
47. ATLANTIC CROAKER	*	*	*	3,264	545	17	570	169	30	7,128	1316	18	10,962	1434	13
48. BLACK DRUM	*	*	*				56	18	32	448	86	19	504	87	17
49. RED DRUM	*	*	*	-	-	-	173	31	18	1,000	144	14	1,182	148	12
50. DRUMS	*	*	*	-	-	-	-	-	-	495	102	21	509	102	20
51. MULLETS	*	*	*	38	20	52	749	522	70	281	107	38	1,068	533	50
52. BARRACUDAS	*	*	*				187	49	26	178	61	34	367	78	21
53. TAUTOG	515	162	31	658	124	19				*	*	*	1,175	204	17
54. CUNNER	545	147	27	1,194	186	16	*	*	*	*	*	*	1,739	237	14
55. LITTLE TUNNY/ATL.BONITO	*	*	*	-	-	-	351	95	27	181	47	26	540	107	20
56. ATLANTIC MACKEREL	72	37	51				*	*	*	*	*	*	100	41	41
57. KING MACKEREL	*	*	*	-	-	-							33	11	33
58. SPANISH MACKEREL	*	*	*	-	-	-	321	159	49	2,991	685	23	3,312	703	21
59. TUNAS/MACKERELS				144	76	53							171	76	45
60. SUMMER FLOUNDER	1,387	440	32	10,534	1312	12	272	73	27	*	*	*	12,192	1386	11
61. GULF FLOUNDER	*	*	*	*	*	*	*	*	*	171	70	41	171	70	41
62. SOUTHERN FLOUNDER	*	*	*				65	18	27	457	191	42	532	192	36
63. WINTER FLOUNDER	1,245	498	40	1,296	199	15	*	*	*	*	*	*	2,541	537	21
64. FLOUNDERS	33	16	50	634	222	35	*	*	*	317	110	35	985	248	25
65. TRIGGERFISHES/FILEFISHES	*	*	*	-	-	-	109	31	28	59	50	85	170	59	35
66. PUFFERS				220	34	15	312	97	31	210	54	26	744	116	16
67. OTHER FISHES	169	88	52	1,441	454	32	744	117	16	6,570	1235	19	8,923	1324	15
TOTALS	14,429	1577	11	58,283	2720	5	20,813	1624	8	56,817	2787	5	150,341	4504	3

NOTE: EST. = ESTIMATE, S.E. = STANDARD ERROR OF ESTIMATE, CV = COEFFICIENT OF VARIATION

NOTE: AN ASTERISK (*) DENOTES NONE REPORTED.

NOTE: AN UNDERSCORE (_) DENOTES AN ESTIMATE LESS THAN THIRTY THOUSAND. HOWEVER THE FIGURE IS INCLUDED IN ROW AND COLUMN TOTALS.

CATCH TYPE B2: AN ESTIMATE OF PART OF THE TOTAL CATCH BASED ON FISH RELEASED ALIVE, AS REPORTED BY THE FISHERMEN.

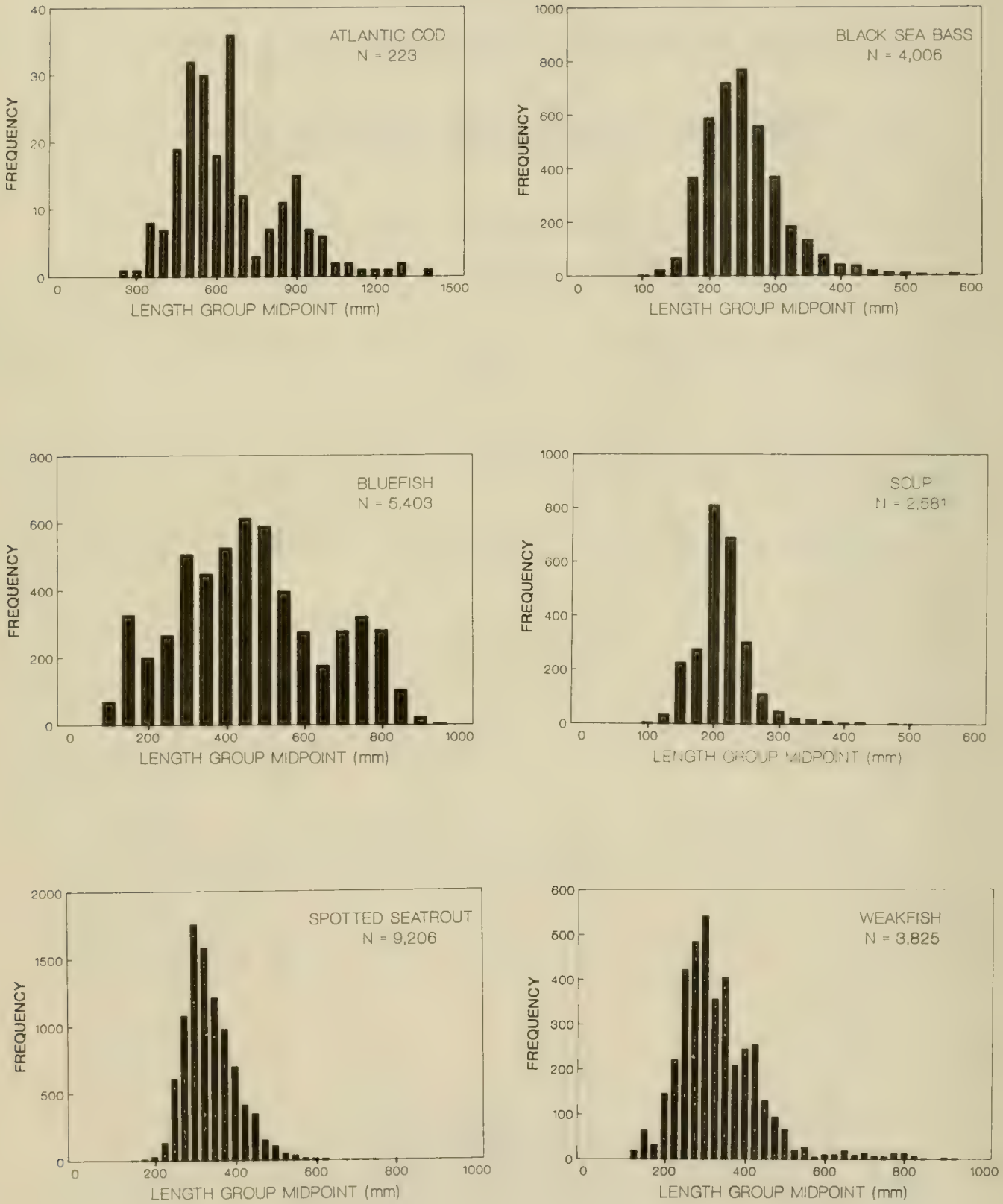
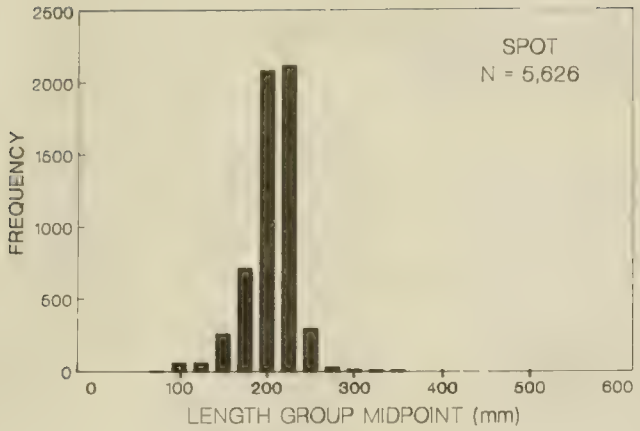
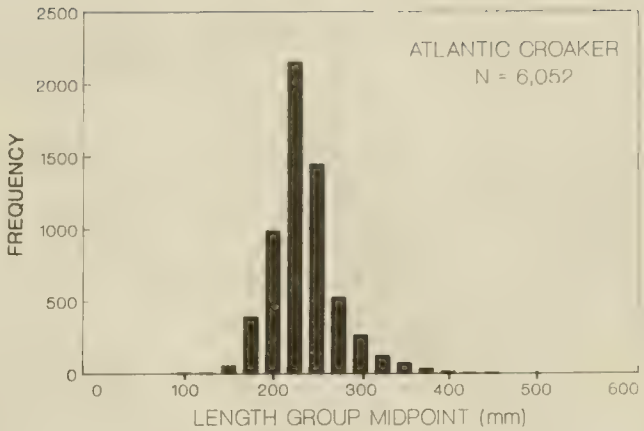
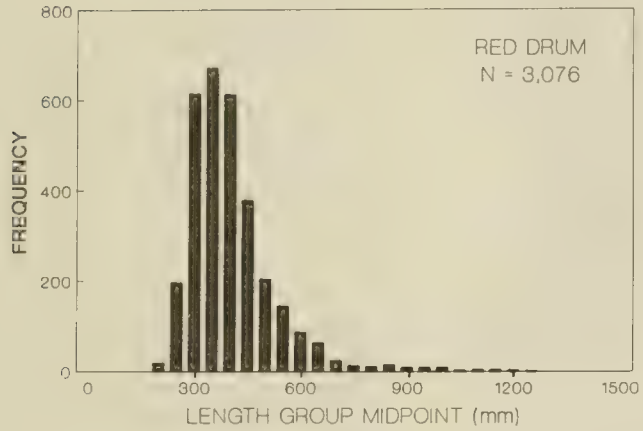
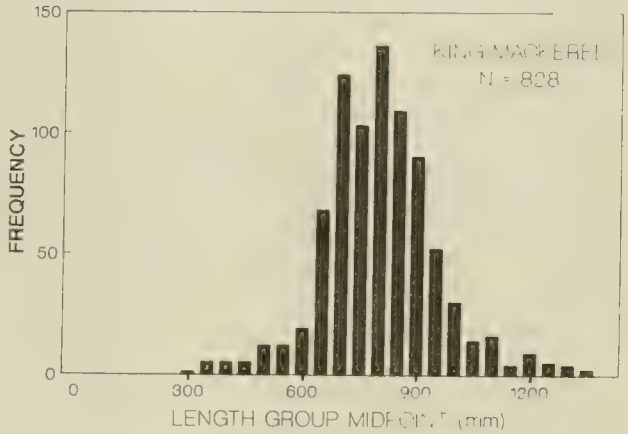


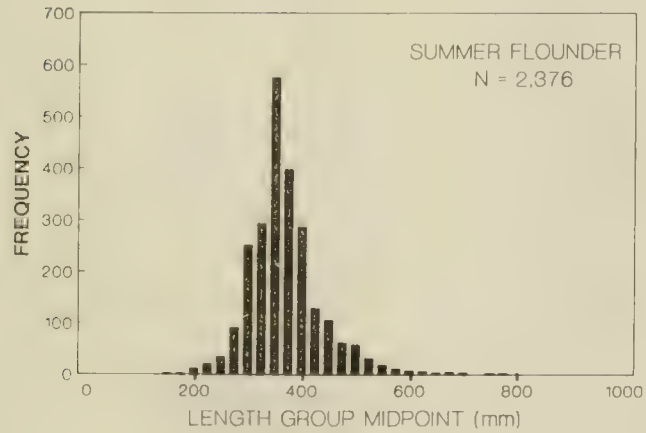
Figure 4. Length frequency histograms for selected fishes.











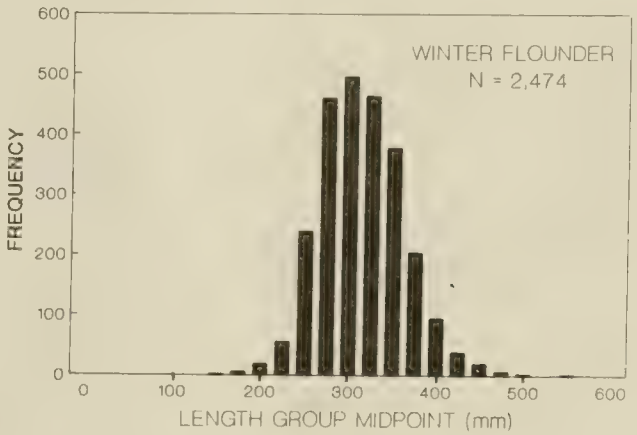


Figure 4 continued.

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
1	Sharks	Ginglymostoma cirratum	Nurse shark
		Odontaspis taurus	Sand tiger
		Alopias vulpinus	Thresher shark
		Isurus oxyrinchus	Shortfin mako
		Carcharhinidae	Requiem sharks
		Carcharinus spp.	Shark genus
		Carcharinus acronotus	Blacknose shark
		Carcharinus brevipinna	Spinner shark
		Carcharinus falciformes	Silky shark
		Carcharinus isodon	Finetooth shark
		Carcharinus leucas	Bull shark
		Carcharinus limbatus	Blacktip shark
		Carcharinus obscurus	Dusky shark
		Carcharinus plumbeus	Sandbar shark
		Carcharinus porosus	Smalltail shark
		Galeocerdo cuvieri	Tiger shark
		Negaprion brevirostris	Lemon shark
		Prionace glauca	Blue shark
		Rhizoprionodon terraenovae	Atlantic sharpnose shark
		Sphyrnidae	Hammerhead sharks
		Sphyrna spp.	Hammerhead genus
		Sphyrna lewini	Scalloped hammerhead
		Sphyrna mokarran	Great hammerhead
		Sphyrna tiburo	Bonnethead
		Sphyrna tudes	Smalleye hammerhead
		Sphyrna zygaena	Smooth hammerhead
		Squatinidae	Angel sharks
		unidentified sharks	
2	Dogfish sharks	Mustelus canis	Smooth dogfish
		Squalidae	Dogfish sharks
		Centroscyllium fabricii	Black dogfish
		Squalus spp.	Dogfish genus
		Squalus acanthias	Spiny dogfish
3	Skates/rays	Rajidae	Skates
		Raja eglanteria	Clearnose skate
		Raja erinacea	Little skate
		Raja laevis	Barndoor skate
		Raja ocellata	Winter skate
		Raja sentra	Smooth skate
		Raja spinicauda	Spinytail skate
		Dasyatidae	Stingrays

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
3	Skates/rays - continued	Dasyatis spp.	Stingray genus
		Dasyatis americana	Southern stingray
		Dasyatis centroura	Roughtail stingray
		Dasyatis sabina	Atlantic stingray
		Dasyatis sayi	Bluntnose stingray
		Rhinoptera bonasus	Cownose ray
		Mobulidae	Mantas
		Manta birostris	Atlantic manta
		Mobula hypostoma	Devil ray
4	Eels	Anguilliformes	Eels
		Anguilla rostrata	American eel
		Muraenidae	Morays
		Gymnothorax moringa	Spotted moray
		Gymnothorax nigromarginatus	Blackedge moray
		Nettastomatidae	Pike-congers
		Conger oceanicus	Conger eel
		Ophichthidae	Snake eels
		Mystriophis mordax	Snapper eel
		Ophichthus gomesi	Shrimp eel
5	Herrings	Clupeidae	Herrings
		Alosa pseudoharengus	Alewife
		Alosa sapidissima	American shad
		Brevoortia patronus	Gulf menhaden
		Brevoortia tyrannus	Atlantic menhaden
		Brevoortia gunteri	Finescale menhaden
		Clupea harengus harebgus	Atlantic herring
		Dorosoma petenense	Threadfin shad
		Eutremes teres	Round herring
		Harengula clupeola	False pilchard
		Harengula jaguana	Scaled sardine
		Opisthonema oglinum	Atlantic thread herring
6	Freshwater catfishes	Ictaluridae	Bullhead catfishes
		Ictalurus spp.	Bullhead catfish genus
		Ictalurus furcatus	Blue catfish
		Ictalurus punctatus	Channel catfish
7	Saltwater catfishes	Ariidae	Sea catfishes
		Arius felis	Hardhead catfish
		Bagre marinus	Gafftopsail catfish

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
8	Toadfishes	Batrachoididae	Toadfishes
		Opsanus spp.	Toadfish genus
		Opsanus beta	Gulf toadfish
		Opsanus pardus	Leopard toadfish
		Opsanus tau	Oyster toadfish
9	Atlantic cod	Gadus morhua	Atlantic cod
10	Atlantic tomcod	Microgadus tomcod	Atlantic tomcod
11	Pollock	Pollachius virens	Pollock
12	Silver hake	Merluccius bilinearis	Silver hake
13	Searobins	Trigilidae	Searobins
		Bellator militaris	Horned searobin
		Prionotus spp.	Searobin genus
		Prionotus carolinus	Northern searobin
		Prionotus evolans	Striped searobin
		Prionotus rubio	Blackfin searobin
14	Sculpins	Cottidae	Sculpins
		Hemitripterus americanus	Sea raven
		Myoxocephalus octodecemspinous	Longhorn sculpin
		Myoxocephalus scorpius	Shorthorn sculpin
15	White perch	Morone americana	White perch
16	Striped bass	Morone saxatilis	Striped bass
17	Black sea bass	Centropristis striata	Black sea bass
18	Groupers	Epinephelus spp.	Grouper genus
		Epinephelus adscensionis	Rock hind
		Epinephelus afer	Mutton hamlet
		Epinephelus drummondhayi	Speckled hind
		Epinephelus flavolimbatus	Yellowedge grouper
		Epinephelus guttatus	Red hind
		Epinephelus inermis	Marbled grouper
		Epinephelus itajara	Jewfish
		Epinephelus morio	Red grouper
		Epinephelus nigritus	Warsaw grouper

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
18	Groupers - Continued	Epinephelus niveatus	Snowy grouper
		Epinephelus striatus	Nassau grouper
		Mycteroperca spp.	Grouper genus
		Mycteroperca bonaci	Black grouper
		Mycteroperca interstitialis	Yellowmouth grouper
		Mycteroperca microlepis	Gag
		Mycteroperca phenax	Scamp
		Mycteroperca venenosa	Yellowfin grouper
19	Sea basses	Serranidae	Sea basses
		Centropristis spp.	Sea bass genus
		Centropristis ocyurus	Bank sea bass
		Centropristis philadelphica	Rock sea bass
		Diplectrum bivittatum	Dwarf sand perch
		Diplectrum formosum	Sand perch
		Serranus atrobranchus	Blackear bass
20	Bluefish	Pomatomus saltatrix	Bluefish
21	Jack crevalle	Caranx hippos	Crevalle jack
22	Blue runner	Caranx crysos	Blue runner
23	Greater amberjack	Seriola dumerili	Greater amberjack
24	Florida pompano	Trachinotus carolinus	Florida pompano
25	Jacks	Carangidae	Jacks
		Alectis ciliaris	African pompano
		Caranx spp.	Jack genus
		Caranx bartholomaei	Yellow jack
		Caranx latus	Horse-eye jack
		Caranx lugubris	Black jack
		Caranx ruber	Bar jack
		Chloroscombrus chrysurus	Atlantic bumper
		Decapterus punctatus	Round scad
		Elagatis bipinnulata	Rainbow runner
		Hemicaranx amblyrhynchus	Bluntnose jack
		Naucrates ductor	Pilotfish
		Oligoplites saurus	Leatherjacket
		Selar crumenophthalmus	Bigeye scad
		Seriola spp.	Jack genus
		Seriola fasciata	Lesser amberjack

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
25	Jacks - Continued	Seriola rivoliana	Almaco jack
		Seriola zonata	Banded rudderfish
		Trachinotus falcatus	Permit
26	Dolphins	Coryphaena equisetis	Pompano dolphin
		Coryphaena hippurus	Dolphin
27	Gray snapper	Lutjanus griseus	Gray snapper
28	Red snapper	Lutjanus campechanus	Red snapper
29	Lane snapper	Lutjanus synagris	Lane snapper
30	Vermilion snapper	Rhomboplites aurorubens	Vermilion snapper
31	Yellowtail snapper	Ocyurus chrysurus	Yellowtail snapper
32	Snappers	Lutjanidae	Snappers
		Apsilus dentatus	Black snapper
		Etilis oculatus	Queen snapper
		Lutjanus spp.	Snapper genus
		Lutjanus analis	Mutton snapper
		Lutjanus apodus	Schoolmaster
		Lutjanus cyanopterus	Cubera snapper
		Lutjanus jocu	Dog snapper
33	Pigfish	Orthopristis chrysoptera	Pigfish
34	White grunt	Haemulon plumieri	White grunt
35	Grunts	Haemulidae	Grunts
		Anisotremus surinamensis	Black margate
		Anisotremus virginicus	Porkfish
		Conodon nobilis	Barred grunt
		Haemulon spp.	Grunt genus
		Haemulon album	Margate
		Haemulon aurolineatum	Tomtate
		Haemulon flavolineatum	French grunt
		Haemulon macrostomum	Spanish grunt
		Haemulon parrai	Sailors choice
		Haemulon sciurus	Bluestriped grunt
		Haemulon striatum	Striped grunt

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
36	Scup	*Stenotomus chrysops*	Scup
37	Pinfish	*Diplodus holbrooki*	Spottail pinfish
		Lagodon rhomboides	Pinfish
38	Sheepshead	*Archosargus probatocephalus*	Sheepshead
39	Red porgy	*Pagrus pagrus*	Red porgy
40	Porgies	Sparidae	Porgies
		Calamus spp.	Porgy genus
		Calamus arctifrons	Grass porgy
		Calamus bajonado	Jolthead porgy
		Calamus leucosteus	Whitebone porgy
		Calumus nodosus	Knobbed porgy
		Calumus proridens	Littlehead porgy
		Diplodus argenteus	Silver porgy
		Stenotomus caprinus	Longspine porgy
41	Spotted seatrout	*Cynoscion nebulosus*	Spotted seatrout
42	Weakfish	*Cynoscion regalis*	Weakfish
43	Sand seatrout	*Cynoscion arenarius*	Sand seatrout
44	Silver perch	*Bairdiella chrysoura*	Silver perch
45	Spot	*Leistomus xanthurus*	Spot
46	Kingfishes	*Menticirrhus* spp.	Kingfish genus
		Menticirrhus americanus	Southern kingfish
		Menticirrhus littoralis	Gulf kingfish
		Menticirrhus saxatilis	Northern kingfish
47	Atlantic croaker	*Micropogonias undulatus*	Atlantic croaker
48	Black drum	*Pogonias cromis*	Black drum
49	Red drum	*Sciaenops ocellatus*	Red drum
50	Drums	Sciaenidae	Drums
		Bairdiella sanctaeluciae	Striped croaker
		Cynoscion spp.	Seatrout genus

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
50	Drums - Contined	Cynoscion nothus	Silver seatrout
		Equetus umbrosus	Cubbyu
		Aplodinotus grunniens	Freshwater drum
51	Mullets	Mugilidae	Mullets
		Mugil cephalus	Striped mullet
		Mugil curema	White mullet
		Mugil gaimardianus	Redeye mullet
52	Barracudas	Sphyraenidae	Barracudas
		Sphyraena barracuda	Great barracuda
		Sphyraena borealis	Northern sennet
		Sphyraena gauchancho	Guaguanche
53	Tautog	Tautoga onitis	Tautog
54	Cunner	Tautogolabrus adspersus	Cunner
55	Little tunny/ Atlantic bonito	Euthynnus alletteratus	Little tunny
		Sarda spp.	Bonito genus
		Sarda sarda	Atlantic bonito
56	Atlantic mackerel	Scomber scombrus	Atlantic mackerel
57	King mackerel	Scomberomorus cavalla	King mackerel
58	Spanish mackerel	Scomberomorus maculatus	Spanish mackerel
59	Tunas/mackerels	Scombridae	Mackerels
		Acanthocybium solanderi	Wahoo
		Auxis spp.	Mackerel genus
		Auxis thazard	Frigate mackerel
		Euthynnus pelamis	Skipjack tuna
		Scomber japonicus	Chub mackerel
		Scomberomorus spp.	Mackerel genus
		Scomberomorus regalis	Cero
		Thunnus spp.	Tuna genus
		Thunnus alalunga	Albacore
		Thunnus albacares	Yellowfin tuna
		Thunnus atlanticus	Blackfin tuna
		Thunnus obesus	Bigeye tuna
		Thunnus thynnus	Bluefin tuna

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
60	Summer flounder	Paralichthys dentatus	Summer flounder
61	Gulf flounder	Paralichthys albigutta	Gulf flounder
62	Southern flounder	Paralichthys lethostigma	Southern flounder
63	Winter flounder	Pseudopleuronectes americanus	Winter flounder
64	Flounders	Pleuronectiformes	Flounders
		Bothidae	Lefteye flounders
		Citharichthys spp.	Sanddab genus
		Citharichthys macrops	Spotted whiff
		Citharichthys spilopterus	Bay whiff
		Etropus crossotus	Fringed flounder
		Paralichthys spp.	Lefteye flounder genus
		Scopthalmus aquosus	Windowpane
		Syacium gunteri	Shoal flounder
		Pleuronectidae	Righteye flounders
		Soleidae	Soles
		Trinectes maculatus	Hogchoker
		Cynoglossidae	Tonguefishes
		Symphurus plagiusa	Blackcheek tonguefish
65	Triggerfishes/ filefishes	Balistidae	Leatherjackets
		Aluterus spp.	Filefish genus
		Aluterus schoepfi	Orange filefish
		Balistes capriscus	Gray triggerfish
		Balistes vetula	Queen triggerfish
		Canthidermis sufflamen	Ocean triggerfish
66	Puffers	Tetraodontidae	Puffers
		Lagocephalus laevigatus	Smooth puffer
		Sphoeroides spp.	Puffer genus
		Sphoeroides maculatus	Northern puffer
		Sphoeroides nephelus	Southern puffer
67	Other fishes	Polyodontidae	Paddlefishes
		Lepisosteidae	Gars
		Lepisosteus osseus	Longnose gar
		Lepisosteus spatula	Alligator gar
		Amia calva	Bowfin
		Elopidae	Ladyfishes

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
67	Other fishes - Continued	Elops spp.	Ladyfish
		Elops saurus	Ladyfish
		Megalops atlanticus	Tarpon
		Albula vulpes	Bonefish
		Anchoa mitchilli	Bay anchovy
		Oncorhynchus kisutch	Coho salmon
		Salmo gairderi	Rainbow trout
		Salmo salar	Atlantic salmon
		Salmo trutta	Brown trout
		Salvelinus fontinalis	Brook trout
		Osmerus mordax	Rainbow smelt
		Synodontidae	Lizardfishes
		Synodus foetens	Inshore lizardfish
		Synodus intermedius	Sand diver
		Trachinocephalus myops	Snakefish
		Cyprinus carpio	Common carp
		Lophius americanus	Goosefish
		Antennariidae	Frogfishes
		Ogcocephalidae	Batfishes
		Gadidae	Codfishes
		Brosme brosme	Cusk
		Melanogrammus aeglefinus	Haddock
		Urophycis spp.	Hake genus
		Urophycis chuss	Red hake
		Urophycis floridanus	Southern hake
		Urophycis regia	Spotted hake
		Urophycis tenuis	White hake
		Ophidiidae	Cusk-eels
		Ophidios grayi	Blotched cuskeel
		Macrozoarces americanus	Ocean pout
		Brotula brotula	Bearded brotula
		Exocoetidae	Flyingfishes
		Cypselurus spp.	Flyingfish genus
		Cypselurus heterurus	Atlantic flyingfish
		Hemiramphus brasiliensis	Ballyhoo
		Belonidae	Needlefishes
		Ablennes hians	Flat needlefish
		Strongylura marina	Atlantic needlefish
		Tylosurus acus	Agujon
		Tylosurus crocodilus	Houndfish
		Cyprinodontidae	Killifishes
		Fundulus spp.	Killifish genus
		Fundulus heteroclitus	Mummichog

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
67	Other fishes - Continued	Fundulus majalis	Striped killifish
		Atherinidae	Silversides
		Membras martinica	Rough silverside
		Menidia menidia	Atlantic silverside
		Holocentridae	Squirrelfishes
		Holocentrus ascensionis	Squirrelfish
		Holocentrus rufus	Longspine squirrelfish
		Trachipteridae	Ribbonfishes
		Desmodema polysticta	Polka dot ribbonfish
		Aulostomus maculatus	Trumpetfish
		Cyclopterus lumpus	Lumpfish
		Perciformes	Perches
		Centropomus pectinatus	Tarpon snook
		Centropomus undecimalis	Snook
		Morone spp.	Bass genus
		Morone chrysops	White bass
		Grammistidae	Soapfishes
		Centrarchidae	Sunfishes
		Lepomis spp.	Sunfish genus
		Lepomis auritus	Redbreasted sunfish
		Lepomis gibbosus	Pumpkinseed
		Lepomis macrochirus	Bluegill
		Lepomis microlophus	Redear sunfish
		Micropterus dolomieui	Smallmouth bass
		Pomoxis spp.	Crappie genus
		Percidae	Perches
		Perca flavescens	Yellow perch
		Priacanthus cruentatus	Glasseye snapper
		Apogonidae	Cardinalfishes
		Lopholatilus chamaeleonticeps	Tilefish
		Malacanthus plumieri	Sand tilefish
		Rachycentron canadum	Cobia
		Echeneidae	Remoras
		Echeneis naucrates	Sharksucker
		Remora remora	Remora
		Lobotes surinamensis	Tripletail
		Diapterus auratus	Irish pompano
		Eucinostomus spp.	Mojarra genus
		Eucinostomus argenteus	Spotfin mojarra
		Gerres cinereus	Yellowfin mojarra
		Kyphosus sectatrix	Bermuda chub
		Chaetodipterus faber	Atlantic spadefish

I. List of Species Included in Each Species Group, 1986 Atlantic and Gulf Survey

Species Group Number	Species Group Name	Scientific Name	Common Name
67	Other fishes - Continued	Chaetodontidae	Butterflyfishes
		Holocanthus bermudensis	Blue angelfish
		Holacanthus ciliaris	Queen angelfish
		Pomacanthus arcuatus	Gray angelfish
		Abudefduf saxatilis	Sergeant major
		Labridae	Wrasses
		Bodianus rufus	Spanish hogfish
		Halichoeres bivittatus	Slippery dick
		Lachnolaimus maximus	Hogfish
		Scaridae	Parrotfishes
		Nicholsina usta	Emerald parrotfish
		Sparisoma viride	Spotlight parrotfish
		Uranoscopidae	Stargazers
		Astroscopus guttatus	Northern stargazer
		Anarhichadidae	Wolffishes
		Anarhichas lupus	Atlantic wolffish
		Ammodytes americanus	American sand lance
		Gobiidae	Gobies
		Evorthodus lyricus	Lyre goby
		Gobiosoma oceanops	Neon goby
		Acanthurus chirurgus	Doctorfish
		Acanthurus randalli	Gulf surgeonfish
		Trichiurus lepturus	Atlantic cutlassfish
		Xiphias gladius	Swordfish
		Istiophorus platypterus	Sailfish
		Makaira nigricans	Blue marlin
		Tetrapturus albidus	White marlin
		Cubeceps athenae	Bigeye cigarfish
		Peprilus alepidotus	Harvestfish
		Peprilus burti	Gulf butterfish
		Peprilus triacanthus	Butterfish
		Scorpaena spp.	Scorpionfish genus
		Sebastes marinus	Ocean perch
		Lactpphrys spp.	Cowfish genus
		Lactophrys polygonia	Honeycomb cowfish
		Lactophrys quadricornis	Scrawled cowfish
		Chilomycterus Antennatus	Bridled burrfish
		Chilomycterus schoepfi	Striped burrfish
		Diodon holocanthus	Balloonfish
		Diodon hystrix	Porcupinefish
		unidentified fishes	

APPENDIX A - SAMPLE TELEPHONE SURVEY INSTRUMENT

4/86

MARKET FACTS INC., 676 NORTH ST. CLAIR ST. CHICAGO, ILLINOIS 60611 JOB NO. G667-H
OMB #41-R2999
Expires: 11/30/86

ME, NH, MA, RI, CT, NY, NJ, DE, MD, NC, SC, GA

RECREATIONAL FISHING QUESTIONNAIRE
SCREENING

Hello, I'm calling long distance for a survey being conducted for the National Marine Fisheries Service of the U.S. Department of Commerce. We're surveying recreational fishermen in various coastal counties. Your telephone number has been selected at random.

1a. To help me assign your information to the correct location, do you live in (NAME OF COUNTY)? (SEE SAMPLE SHEET FOR NAME OF COUNTY).

Yes ..... 1 ___(CHECK COUNTY NAME ON SAMPLE SHEET AND SKIP TO QU. 2)

No 2

DK ..... 3 ___(SKIP TO QU. 1C)

Refused ..... X ___(SKIP TO QU. 2; ASK QU. 1A AGAIN LATER ON IN THE INTERVIEW)

1b. In what (county) are you located?

Call Record (County)..... 1 ___(CHECK COUNTY NAME ON SAMPLE SHEET. IF SAME, SKIP TO QU. 2)

Name _____

Other (County)..... 2 ___(IF COUNTY REACHED IS NOT ACCEPTABLE, TERMINATE, WRITE THAT COUNTY ON CALL RECORD, AND HAVE YOUR SUPERVISOR ASSIGN THE RESULT CODE "09")

Name _____

Refused ..... X ___(SKIP TO QU. 2; ASK QU. 1A AGAIN LATER IN THE INTERVIEW)

DK ..... 4 ___

1c. In what town do you live?

In Call Record (County).....1 ___(RECORD NAME OF TOWN ON SAMPLE SHEET UNDER COUNTY NAME AND ASK QU.2)

Name _____

Not Call Record (County).....2 ___(TQ1C AND CODE "09" ON SAMPLE SHEET)

Refused .....X ___(ASK QU. 2; ASK QU. 1A AGAIN LATER IN THE INTERVIEW)

4/86

2. Is this your permanent, year-round residence?

Yes..... 1

No..... 2 ____(TQ2 AND RECORD "08" ON CALL RECORD)

3. We want to gather information from people who have been saltwater sportfishing for finfish, not shellfish, in the last 12 months. Saltwater fishing includes fishing in oceans, sounds, or bays, or in tidal portions of rivers. How many people in your household have been saltwater sportfishing in the last twelve months in this state or from a boat launched from this state?

None ..... 1 ____(RECORD "20" AS CALL RESULT. RECORD "00" ON 12 MONTH LINE. TQ3.)

One or More .... 2 ____(RECORD # OF FISHERMEN ON 12-MONTH LINE)

Refused ..... X ____(RECORD "22" AS CALL RESULT. LEAVE 12 MONTH LINE EMPTY. TQ3.)

DK ..... 4 ____(ARRANGE CALLBACK; IF CALLBACK CANNOT BE ARRANGED, RECORD "21" AS CALL RESULT. LEAVE 12 MONTH LINE EMPTY. TQ3.)

4a. Thinking just about the past 2 months, how many people in your household have been saltwater sportfishing in this state or from a boat launched from this state?

None ..... 1 ____(RECORD "23" AS RESULT. RECORD "00" ON 2 MONTH LINE. TQ4.)

One or More .... 2 ____(RECORD "26" AS CALL RESULT, RECORD # OF FISHERMEN IN 2-MONTH LINE)

Refused ..... X ____(RECORD "25" AS CALL RESULT. LEAVE 2 MONTH LINE EMPTY. TQ4.)

DK..... 4 ____(ARRANGE CALLBACK; IF CALLBACK CANNOT BE ARRANGED, RECORD "24" AS CALL RESULT. LEAVE 2-MONTH LINE EMPTY. TQ4.)

4b. (Are any of those people/Is that person) available now?

Yes ....1 ____(ASK TO SPEAK TO THAT PERSON)

No ....2 ____(FILL IN NAMES ON COVER SHEET AND ARRANGE CALLBACK)

MARKET FACTS, INC., 676 NORTH ST. CLAIR, CHICAGO, ILLINOIS 60611 JOB NO. G667-H
OMB #41-R2999
Expires: 11/30/86

TRIP QUESTIONNAIRE

INTRODUCTION WHEN HOUSEHOLD MEMBER ANSWERING THE PHONE IS A FISHERMAN:

I'd like to ask you a few questions about your most recent finfishing trips. This survey is being conducted in accordance with the Privacy Act of 1974, therefore you are not obligated to answer any question if you find it to be an invasion of your privacy.

INTRODUCTION WHEN OTHER FISHERMEN IN THE HOUSEHOLD COME TO THE PHONE:

Hello, I'm conducting a survey on saltwater sportfishing for the National Marine Fisheries service. By saltwater fishing, I mean fishing in oceans, sounds, or bays, or in tidal portions of rivers. For the purpose of this survey, it includes only fishing for finfish, not shellfish. I understand that you've been saltwater fishing in the past 2 months, and I'd like to ask you a few questions about your most recent trips. This survey is being conducted in accordance with the Privacy Act of 1974, therefore you are not obligated to answer any question if you find it to be an invasion of your privacy.

Again, we're interested in those trips where you went after finfish, whether you caught any or not, and in those trips where you might have been going after shellfish but caught finfish. Please list the dates of your saltwater sportfishing trips for the past 2 months, starting with your recent trip and working backwards in time. I have a calendar here in front of me, so I can help you with the dates.

DATE 1. When did you last go finfishing?
(ASSIGN TRIP NUMBER AND RECORD DATE OF TRIP ON RESPONSE FORM.)

MODE 2. Were you fishing from a pier, a jetty, a bridge, a beach or a bank, or a boat?

(IF MORE THAN ONE MODE (A, B, C, or D), CODE EACH AS A SEPARATE TRIP. IF MORE THAN ONE CATEGORY WITHIN A MODE, CODE THE ONE USED LAST THAT DAY. CODE NUMBER ONLY, NOT LETTER:)

A.
1. Pier, dock
2. Jetty, breakwater, breachway
3. Bridge, causeway
4. Other manmade structure (e.g., barge)

B.
5. Beach or bank, natural shore area, natural rocks

C.
6. Partyboat, headboat, open boat
7. Charter boat

D.
8. Private or rental boat

9. Refused/Don't Know/Don't Remember

DATE 3. And what was the date of your finfishing trip before that?

(REPEAT QU. 2 AND QU. 3 UNTIL ALL TRIPS FOR THE PAST 2 MONTHS HAVE BEEN COVERED.)

IF RESPONDENT CANNOT REMEMBER DATES: Did you go on any additional trips between the trip you mentioned last and (SPECIFY BEGIN DATE)?

Yes..... 1 ____[How many? Were they from a pier, a jetty, a partyboat, or what? (CODE AS MUCH INFORMATION AS POSSIBLE. CODE "0" IN EACH BOX FOR MISSING INFO.)]

No..... 2

Now I'd like a little more information about each of the trips you just mentioned. (STARTING WITH THE FIRST TRIP MENTIONED BY RESPONDENT, ASK QU. 4, QU. 5, QU. 6, & QU. 7 FOR EACH TRIP BEFORE GOING ON TO THE NEXT TRIP.)

GEAR 4. On (DATE) when you were fishing from a (SPECIFY MODE OR CATEGORIES WITHIN MODE MENTIONED BY RESPONDENT), what kind of gear were you primarily using -- a hook and line, a dip net, or what?

(PROBE TO OBTAIN SINGLE ANSWER. IF NECESSARY, ASK: Which gear was actually in the water more, that is, wet more often?

Hook and line ... 01	Spear 08
Dip net 02	Butterfly net 09
Cast net 03	Hands 10
Gill net 04	Other 11
Seine 05	Don't know/ Don't Remember... 98
Trawl 06	Refusal 99
Trap 07	

AREA 5. Was most of your finfishing effort for fish that day in the ocean, a sound, a river, or a bay? (PROBE BAY - Was that an open bay or an enclosed bay? PROBE INLET - Were you more toward the outside or more toward the inside of the inlet?)

Ocean/Open Bay/ Outside Inlet 1	Enclosed Bay/ Inside Inlet..... 4
Sound 2	Other 5
River 3	Don't know/ Don't Remember... 8
(Was your fishing in the lower part of the river which is affected by the tide?)	Refused 9
Yes - CONTINUE	
No - DELETE TRIP	

(GO TO NEXT PAGE)

OCEAN & BOAT

A

If AREA = ocean (1) and MODE = boat (6,7,8), ask:

THREE MILES Qu. 6 - WAS MOST OF YOUR FISHING EFFORT MORE THAN THREE MILES FROM SHORE, OR THREE MILES OR LESS FROM SHORE:

More than three miles. 1
Three miles or less. 2
Don't know/don't remember. . . . 8
Refused. 9

STATE COUNTY Qu. 7 - TO WHAT STATE AND COUNTY DID YOUR BOAT RETURN? (If don't know:) DO YOU KNOW THE NAME OF THE TOWN OR CITY? (Record state and county or city on appropriate line on trip response form.)

Return to Qu. 4 for next trip.

B

OCEAN, BUT NOT BOAT

If AREA = ocean (1) and MODE = not boat (1,2,3,4,5), ask:

THREE MILES Qu. 6 - Automatically code "2" for "three miles or less."

STATE COUNTY Qu. 7 - IN WHAT STATE AND COUNTY WERE YOU FISHING? (Record state and county on appropriate line on trip response form.)

Return to Qu. 4 for next trip.

C

NOT OCEAN

If AREA ≠ ocean (area = 2,3,4,5), ask:

THREE MILES Qu. 6 - Automatically code "0" for not applicable.

STATE COUNTY Qu. 7 - (If stationary mode, ask:) IN WHAT STATE AND COUNTY WERE YOU FISHING? (IF boat, ask:) TO WHAT STATE AND COUNTY DID YOUR BOAT RETURN?

Return to Qu. 4 for next trip.

APPENDIX B - SAMPLE INTERCEPT SURVEY INSTRUMENT

3. INTERVIEWER CODE: ENTER YOUR 3-DIGIT CODE.
4. YR/MO/DAY: ENTER DATE OF INTERVIEW.
5. INTERVIEW NO: CONSECUTIVE NUMBER OF THIS INTERVIEW FOR THE DAY.
6. HOUR: TIME INTERVIEW WAS COMPLETED USE 24-HOUR TIME.
7. STATE: ENTER STATE CODE WHERE INTERVIEW TOOK PLACE.
8. COUNTY: ENTER COUNTY CODE WHERE INTERVIEW TOOK PLACE.
9. SITE: ENTER SITE CODE WHERE INTERVIEW TOOK PLACE.
10. INTERVIEW STATUS:

Questionnaire complete 1	Language barrier, etc. 4
Refused non-key items 2	Refused key item 5
Initial Refusal 3	

This study is being conducted in accordance with the Privacy Act of 1974. You are not required to answer any question that you consider to be an invasion of your privacy.

11. Would you say you were fishing from (SPECIFY APPROPRIATE MODE COMBINATION)?

SH –
- Pier, dock. 1
- Jetty, breakwater, breachway . 2
- Bridge, causeway. 3
- Other man-made structure . . . 4
- Beach or bank 5

PC –
- Partyboat 6
- Charter boat. 7

PR – Private or rental boat. 8

12. Was most of your (SPECIFY MODE) fishing effort today in the ocean/gulf, a sound, river, bay or inlet?
(IF BAY, ASK: Was that in an open or an enclosed bay?)
(IF INLET, ASK: Were you more toward the inside of the inlet or the outside of the inlet?)

- Open water (ocean, gulf, open bay or outside inlet) 1
- Sound 2
- River . . . . . 3 → (CODE Qs. 13 and 14 AS "8". GO TO Q. 15.)
- Enclosed bay or inside inlet . . . 4
- Other (SPECIFY) 5

13. IF SHORE, CODE "1", GO TO Q. 14. Was that three miles or less from shore, or more than three miles?

- Three miles or less 1
- More than three miles . . . . . 2 →

FOR FLORIDA GULF, ASK: Was that between three and ten miles or over ten miles?

- Between three and ten miles . . . . 3 → (RECORD ONLY 3 OR 4, NOT 2.)
- Over ten miles 4

14. IF ATLANTIC or SHORE GULF, CODE "8", GO TO Q. 15.
Was most of your boat fishing today within 200 feet of an oil or gas platform, or within 200 feet of an artificial reef? IF YES, ASK: Which?

- No 1
- Near oil/gas platform . . 2
- Near artificial reef . . 3

15. Were you fishing for any particular kinds of fish today?

IF YES, ASK: What kinds? → (CODE ONLY FIRST TWO. LEAVE UNUSED BOXES BLANK.)

16. Have you been fishing here today primarily with a hook and line?

Yes . . . 01 IF NO, ASK: What type of gear have you been using primarily?

Dip net, A-frame net . 02	Seine 05	Spear 08
Cast net 03	Trawl 06	Hand 09
Gill net 04	Trap 07	Other (SPECIFY) 10

17. To the nearest half-hour, how many hours have you spent (SPECIFY MODE) fishing today? That is, how many hours have you actually spent with your gear in the water?

18. Not counting today, within the past 12 months, how many days have you gone saltwater sport finfishing in this state, or from a boat launched in this state? [DK = 998; REF = 999]

19. Not counting today, how many days within the past two months? [DK = 98; REF = 99]

(20) What is your state and county of residence? IF COUNTY IS UNKNOWN, ASK: What city or town do you live in?

21. To the nearest mile, how many one-way miles is it from your residence to this fishing site? [DK = 9998; REF = 9999]

22. Do you live in a private residence, or in some other type of housing such as a dorm, barracks, nursing home or rooming house?

Private residence 1
Institutional housing unit . . . . . 2 ⟶ (CODE Q. 23 AS "8", GO TO Q. 24.)

23. Does your home have a telephone?

Yes 1
No 2

24. How old were you on your last birthday? [DK = 98; REF = 99]

25. CODE SEX: Male 1
Female 2

26. In the event that my supervisor wishes to verify that I have been conducting interviews here today, may I have your name and a phone number? IF PHONE IS REFUSED, ASK: May I have an address?

RECORD THE NAME AND PHONE NUMBER OR ADDRESS ON VALIDATION LISTING AND ENTER ONE OF THE FOLLOWING SUMMARY CODES AT Q. 26:

PROVIDED PHONE NUMBER . . 1 PROVIDED ADDRESS . . . . 2 REFUSED BOTH 9

(27) IF THIS PERSON'S FISH ARE DESCRIBED ON ANOTHER PERSON'S FORM, CODE Q. 27 AS "3", CODE Qs. 28-30 AS "8" OR "88", GO TO Q. 31. NOTE: MUST HAVE A TYPE 4 RECORD.

Did you catch any fish while you were (SPECIFY MODE) fishing today that I might be able to look at?

Yes . . 1 ⟶ (NOTE: MUST HAVE AT LEAST ONE TYPE 3 RECORD.)
No . . 2 ⟶ (CODE Qs. 28-30 AS "8" OR "88", GO TO Q. 31. NOTE: NO TYPE 3 OR 4 RECORDS.)

(28) Did you catch these yourself or did someone else catch some of them?

All caught by fisherman . . 1 ⟶ (CODE Qs. 29-30 AS "8" OR "88", GO TO Q. 31.)
Other contributors 2

(29) Can you separate out your individual catch?

Yes ... 1 ⟶ (CODE Q. 30 AS "88", GO TO Q. 31.)
No . . 2

(30) How many fishermen including yourself have their catch here? Please don't include anyone who did not catch anything. Only count those people who have their catch here.

(31) UNAVAILABLE CATCH Did you land any fish that are not here for me to look at?
IF YES, COMPLETE TYPE 2 RECORDS BY ASKING: What were they? What did you do with them? How many?

Thrown back alive . . . 1	Used for bait 4	Filleted 7
Thrown back dead . . . 2	Sold 5	Other (SPECIFY) 8
Given away 3	Not in vicinity of site 6	

(32) AVAILABLE CATCH May I look at your fish? COMPLETE TYPE 3 RECORDS.

(33) TYPE 4 RECORD. CATCH ON ANOTHER PERSON'S FORM. IF THE AVAILABLE CATCH FOR THIS FISHERMAN HAS BEEN RECORDED ON ANOTHER FISHERMAN'S FORM, COMPLETE THE TYPE 4 RECORDS ON THE BOTTOM OF PAGE 1 OF THE ANSWER SHEET. THE DATA IS FROM QUESTIONS 3 - 5 ON THE OTHER FISHERMAN'S FORM.

34. NUMBER OF TYPE 2 RECORDS: ENTER NUMBER OF LINES FILLED OUT FOR CATCH UNAVAILABLE FOR INSPECTION.

35. NUMBER OF TYPE 3 RECORDS: ENTER NUMBER OF LINES FILLED OUT FOR CATCH AVAILABLE FOR INSPECTION.

36. IS THERE A TYPE 4 RECORD? YES . . . 1 NO . . . 0

GLOSSARY

Area fished:

- Ocean. For the purposes of the survey, ocean was divided into two categories: the ocean 3 miles or less from shore (Territorial Sea) except for Texas and the Gulf coast of Florida where it is 3 marine leagues, and the ocean more than 3 miles or 3 marine leagues from shore (Exclusive Economic Zone). Not included were sounds, inlets, rivers, bays, etc.

- Inland. Other bodies of saltwater besides the oceans. Included were sounds, inlets, tidal portions of rivers, bay, estuaries, and other areas of salt or brackish water.

Avidity:

- The frequency of fishing activity, in number of days spent fishing.

Catch:

- Type A. Fish that were caught, landed whole, and available for identification by the interviewers. In addition, the fish were also weighed and measured.

- Type B. Fish that were caught but not kept or were not available for identification.

    Type B1. Fish that were caught and filleted, released dead, given away, or disposed of in some other way.

    Type B2. Fish that were caught and released alive.

- The total catch. The number of fish caught but not necessarily brought ashore, may be obtained by summing catch Types A and B or A, B1, and B2.

- The total number of fish removed from the fishery resource may be obtained by summing catch Types A and B1.

Coastal counties:

- All counties in the coastal States of the United States which were completely within 25 miles of the coastline and were included in the telephone/household surveys.

This boundary was extended to 50 miles in the South Atlantic and Gulf from May through October. In addition, some counties on the Pacific coast inland of the 25 mile zone were included as they represented metropolitian areas that contained fishermen known to go saltwater sportfishing.

Coastal resident:

- A fisherman who lived in a coastal county included in the telephone/household survey.

Coastal State:

- A State bordering on the Atlantic or Pacific Ocean, the Gulf of Mexico or the Caribbean Sea. State also includes a Territory or Commonwealth.

Fishery Management Plan (FMP):

- A plan developed by a Regional Fishery Management Council to manage a fishery resource pursuant to the Magnuson Fishery Conservation and Management Act of 1976.

Fishing site:

- Fishing site refers to the name and location of the place where fishermen were intercepted. Each intercept site was given a unique name and code number. The fishing site did not define the mode of fishing since fishermen may have used different modes at any one site.

Fishing trip:

- Fishing during part or all of one day in one mode. A fisherman who fished from both a pier and jetty on the same day made one fishing trip since the pier and jetty are both man-made structures. However, a fisherman who fished from a party boat in the morning and from a pier in the afternoon is counted as having made two fishing trips--a party boat trip and a man-made structure trip.

Hours fished:

- The amount of time a fisherman actively fished in a mode with his gear in the water. If a fisherman spent time fishing at other sites on the same day, that time was

also included provided the fishing was done in the same mode. Not included was the travel time in a boat or travel time between sites.

Household:

- A household consisted of all persons who occupied a housing unit. The unit must have been intended for year-round use, and not be seasonal or migratory.

Intercept survey or creel census:

- Interviewing fishermen and examining their catch upon completion of their fishing trip, or under certain circumstances, while they were still fishing.

Length and weight of fish:

- Length and weight measurements were obtained from a sample of fish brought ashore in whole form by intercepted fishermen. If more than 10 fish of the same species were brought ashore in whole form, 10 fish were randomly selected to be weighed and measured. If 10 or less fish of the same species were brought ashore in whole form, each fish was weighed and measured.

- For fish with a forked tail, fork length was measured from the tip of the longest jaw or the snout, whichever was terminal with the mouth closed, to the center of the fork.

- For fish with a non-forked tail, total length was measured from the tip of the longest jaw or the snout, whichever was terminal with the mouth closed, to the tip of the caudal lobe or fin.

- Weight was measured to the nearest tenth of a kilogram (1 kilogram is approximately 2.2 pounds). Length was measured to the nearest millimeter (1 millimeter is approximately 0.039 inches).

Marine recreational fishermen:

- Those people who fished in marine waters primarily for recreational purposes. Their catch was primarily for home consumption, although occasionally a part or all of their catch may have been sold and entered commercial channels. Specifically for this survey, marine recreational fishermen were defined as follows: In the telephone/household survey, a fisherman was anyone who

had been marine recreational fishing for finfish in the 12 months prior to telephone/household contact, and an eligible fisherman was anyone who had been marine recreational fishing in the 2 months prior to the telephone/household contact. In the intercept survey an eligible fisherman was anyone just completing a finfishing trip, or in certain cases, someone who was still fishing.

Marine recreational fishing:

- Fishing primarily with hook and line for pleasure, amusement, relaxation, or home consumption. If part or all of the catch was sold, the monetary returns constituted an insignificant part of the person's income.

Mode of fishing:

- The type of place or platform from which marine recreational fishing occurred. There are three modes:

  1. Shore, comprised of

     a. Man-made

        - pier, dock. A structure built over the water and supported by pillars.

        - jetty. A kind of wall, usually made of rocks, built out into the water or parallel to the shore to restrain currents or protect a harbor.

        - breakwater. An off-shore structure used to protect a harbor or beach from the forces of waves.

        - breachway. A connecting channel.

        - bridge. A structure carrying a pathway or roadway over a body of water.

        - causeway. An elevated or raised way across wet ground or water, and

     b. Beach or bank

        - beach. A level stretch of pebbles or sand beside a body of water, often washed by high water.

- bank. A stretch of rising land at the edge of a body of water not washed by high water, which could be rocks or an overhanging cliff.

2. Party or charter boat

- party boat. A boat on which fishing space and privileges are provided for a fee. The vessel is operated by a licensed captain and crew. In some part of the country party boats are called head boats or open boats.

- charter boats. A boat operating under charter for a price, time, etc. It is operated by a licensed captain and crew and the participants are part of a pre-formed group of fishermen. Thus, charters are usually closed parties, as opposed to the open status of party boats.

  NOTE:--Both party and charter boats may make all-day or half-day trips.

3. Private or rental boat

- private boat. A boat belonging to an individual.

- rental boat. A boat that is rented. No crew is provided; the boat is operated by the renter.

Non-coastal resident:

- A fisherman who lived in a coastal State in a county which was not included in the telephone/household survey.

Out-of-State resident:

- A fisherman who lived in a State other than the coastal State in which he fished.

State fished in:

- (State of intercept) The State in which the fishing or intercept site was located. For boat fishing, it was the State from which the boat departed the shoreline for fishing.

State of residence:

- The State in which the fisherman lived and maintained his permanent residence.

U.S. Exclusive Economic Zone (EEZ):

- The MFCMA defines this zone as contiguous to the Territorial Sea of all the United States and its possessions and extending seaward 200 nautical miles measured from the baseline from which the Territorial Sea is measured.

U.S. Territorial Sea:

- A zone extending 3 nautical miles from shore for all States except Texas and the Gulf coast of Florida where the seaward boundary is 3 marine leagues (approximately 10 statute miles).

Wave:

- A wave was a 2 month interval.

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